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GENERAL DYNAMICS
Convair Division

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RANGE SAFETY COMMAND SYSTEM

AIRBORNE

DIFFICULTIES REVIEW

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GENERAL DYNAMICS
Convair Division

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DIFFICULTIES REVIEW ATLAS BOOSTER
AIRBORNE AND GROUND SUPPORT SYSTEMS.

BOOK II.

GENERAL INFORMATION. Volume XIII.

Range Safety Command System Airborne
Difficulties Review.

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Approved by

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Chief of reliability Engineering

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BOOK II - DIFFICULTIES REVIEW - AIRBORNE CONTAINS THE FOLLOWING VOLUMES

VOLUME I	AIRFRAMES
*VOLUME II	ABORT SENSING AND IMPLEMENTATION SYSTEM
VOLUME III	AUTOPILOT
*VOLUME IV	AUXILIARY POWER SOURCE
VOLUME V	ELECTRICAL
*VOLUME VI	GUIDANCE
VOLUME VII	HYDRAULICS
VOLUME VIII	INSTRUMENTATION
VOLUME IX	PNEUMATICS
VOLUME X	PROPELLANT UTILIZATION
VOLUME XI	PROPULSION INTERFACE
VOLUME XII	PROPULSION
VOLUME XIII	RANGE SAFETY COMMAND

*VOLUMES II, IV AND VI UNDER ONE COVER.

GENERAL INFORMATION

The Difficulties Review encompasses problems gathered from the factory, the field. (ETR and WTR) and UTP. The factory difficulties are limited to "selloff" and rerun composite testing.

In the UTP area, the difficulties were excerpted from Central Test Control Reports, Problem Reports, Supplementary History Sheets and Problem Review Reports.

Field problems for the Difficulties Review have been limited to captive flights, flight readiness firings, actual countdown dual propellant loading, quad tanking, component reliability testing, and flight acceptance composite tests. Difficulties called out in the search for critical weakness program was not documented.

GSE problems shall be limited to ETR Complex 12, 13, 36A and 36B for the present edition. Hereafter only booster difficulties shall be maintained.

Failure analysis reports cover difficulties from the field and factory and may complement the information above.

The GSE Difficulties Review, Book 1 contains 14 Volumes, one volume for each system, under one cover. Each volume is appropriately indexed.

The Airborne Difficulties Review, Book 2 contains 13 volumes. Each volume is under separate cover except Volumes II, IV and VI. Volumes II, IV, and VI are under one cover because of the limited material contained in each volume. All volumes are appropriately indexed.

A guide to facilitate interpretation of data in the Difficulties Review (GSE and Airborne) is part of each book or volume.

DIFFICULTIES REVIEW RANGE SAFETY COMMAND SUBSYSTEMS AIRBORNE

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GENERAL DYNAMICS

Convair Division

Subject: Explanatory Information For Use of Difficulties Review (DR)
Data Tab Runs

This information has been prepared to facilitate use of the DR. It is not intended to describe how the DR was prepared nor the scope of the existing effort.

The Difficulties Review (DR) is presented on a form compatible with automated data processing and printout.

Appearing at the top of the page (outside of blocked-in areas) is the identification of the system and whether it is Airborne or Ground Support Equipment. Appearing with this identification is the date of the document and the page number.

On the right hand side outside of the blocked area, appears the abstract number. An abstract number is assigned to each item of the Difficulty Review to facilitate traceability to the original input document.

Appearing under the major identification are blocks wherein the information on component or system difficulty is identified and explained. Attached are samples of pages coded for reference to the following definitions and explanations:

<u>CODE</u>	<u>EXPLANATION</u>
(1)	<p>This group of blocks callout <u>system</u>, <u>subsystem</u>, <u>test/report number</u>, <u>failed component name</u>, <u>difficulty (Dif)</u> <u>data source</u>, and <u>GDC part number</u> if applicable. Also called out here is the <u>vehicle number</u>, if applicable, and the <u>date of difficulty</u>.</p> <p>In the same row, the <u>site</u> location, and in case of a flight, captive flight, or countdown, the time will be entered.</p> <p>The block containing PRI and OTH refer to whether or not the failure is <u>primary</u> or a <u>secondary</u> failure. A secondary failure is to be interpreted as caused by another discrepancy.</p> <p>The last block in this row is obvious and requires no further explanation.</p>
(2)	Refers to a major system of the launch vehicle.
(3)	Refers to subsystem of a major vehicle system if applicable, (Booster, sustainer, etc).

GENERAL DYNAMICS
Convair Division

<u>CODE</u>	<u>EXPLANATION</u>
4	Is a report number as opposed to type of report, (UTP, Countdown, Flight, FAR, etc.).
5	Is a type of report, such as a FAR, UTP, FRF, etc.
6	Refers to a component part by name.
7	Is a component piece part of the component and referred to by name, (plug, seal, wiring, diode, etc., only where applicable).
8	Is a GDC part number, if applicable.
9	Refers to a site or location at time of discrepancy on the component or vehicle system.
10	Is the vehicle on which discrepancy occurred. Vehicle number listed only if unit was installed on a vehicle at time of discrepancy.
11	Is the vendor part number, if applicable.
12	Is the vendor name, if applicable.
13	Is the failure caused by other component or other system. This item defines the failure as secondary or not secondary.
14	Refers to the primary failure. If item is labeled <u>no</u> , then item (13) may appear as a <u>yes</u> . Should item (13) appear as a <u>yes</u> , then an abstract will have been written to identify the cause of failure affecting the component referred to in the Difficulty Review, Item 6. It should be noted that a multiple failure may be recorded in these blocks, (yes/yes), or if a failure did not occur, (no/no).
15	Defines the failure mode, and if identifiable, the cause is called out. A careful review of the failure mode is made to determine effect on system operation and vehicle effort.

GENERAL DYNAMICS

Convair Division

<u>CODE</u>	<u>EXPLANATION</u>
16	Defines the system effect. This effect is the result of the failure mode assigned to the component.
17	Defines the vehicle effect. This effect is a result of the failure mode and the result of the system effect. It should be noted that corrective action may be taken whether or not the failure was confirmed.
18	Lists the corrective action. Taken by GDC, the vendor, or both.

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GENERAL INVESTIGATIVE
DIVISION

DIFFICULTIES REVIEW-HYDRAULIC SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI VENDOR PART NO	VENDOR NAME
1						
2	HYDRAULIC-A/B BOOSTER	27A3977 HYDRAULIC PUMP	UTP-PET 27-00566-1	001200	CONVAIR	YES VICKERS MO AA-00094-R-2A
3						
4						
5						
6	HYDRAULIC-A/B BOOSTER	SLV-AB-10-2897 HYDRAULIC PUMP/SEAL	FAR 27-00566-1	7120 001003	FACTORY	YES VICKERS MO AA-00094-R-2A
7						
15	HYDRAULIC-A/B BOOSTER	SLV-9D-10-259-F BOOSTER HYDRAULIC PUMP/SEAL	FAR 27-00566-1	0071-01 040709	WTR	MO VICKERS YES AA-00094-R-2A
18	HYDRAULIC-A/B BOOSTER	00A310-3 HYDRAULIC PUMP	UTP-PET 27-00566-1	000910	CONVAIR	YES VICKERS MO AA-00094-R-2A

CORRECTIVE ACTION-DEPT 841-3 TO PERFORM RETEST ON TWO (2) ADDITIONAL UNITS FROM LOT 13, TO DETERMINE LOT ACCEPTABILITY AND PROVIDE COMPARISON DATE.

FAILURE MODE-OUT OF SPECIFICATION. 8/M 409-0030. PEAK TRANSIENT PRESSURES WERE 4100 TO 4800 PSIG. ALLOWABLE IS 4000 PSIG. NO FEED TO PULP FLOW TIME IS 0.137 SECONDS, ALLOWABLE TIME IS 0.09 SECONDS.

CORRECTIVE ACTION-SUBMIT ECP 7000 TO REVISE TEST REQUIREMENTS TO PRACTICAL LEVELS.

FAILURE MODE-LEAK-EXTERNAL-CONTINUOUS OIL SEEPAGE WAS OBSERVED DURING CHECKOUT. CAUSED BY DEFECTIVE SEAL AT PUMP TANGLE PRESSURE SENSING PORT.

CORRECTIVE ACTION-VENDOR REVIEWED STOCK OF O-RINGS AND INFORMED THEIR PERSONNEL OF CORRECT SEAL INSTALLATION PROCEDURE.

FAILURE MODE-LEAK-EXTERNAL. PUMP WAS REPORTED LEAKING AFTER HOT FIRING TEST. CASE WAS OVERPRESSURIZED CAUSING DAMAGE TO CASE COVER SEAL.

CORRECTIVE ACTION-NO CORRECTIVE ACTION RECOMMENDED SINCE DAMAGE OCCURRED DUE TO INADVERTENT OVERPRESSURIZATION OF THE PUMP.

FAILURE MODE-LEAK EXTERNAL. 8/M 809-0066 FAILED TO MEET CASE DRAIN LEAKAGE REQUIREMENTS OF 6.0 GPM DURING PRE-107. THIS UNIT ALSO FAILED TO MEET PEAK TRANSIENT PRESSURE REQUIREMENTS. REFER TO FPR-4201.

SYSTEM EFFECT-NONE.

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GENERAL DYNAMICS
CONVAIR DIVISION

15 FEB 1966

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DIFFICULTIES REVIEW-HYDRAULIC SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTH	VENDOR NAME VENDOR PART NO	
CORRECTIVE ACTION-BOOSTER HYDRAULIC FILL AND BLEED PERFORMED.							
HYDRAULIC-A/B BOOSTER	FT8887/P8-WO-01-04C9	COMPOSITE-FRD/DPL	1310 030713	308	NO	NO	007607
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. TEST WAS RUN WITHOUT BOOSTER HYDRAULICS BECAUSE BOOSTER MPU COULD NOT BE OPERATED REMOTELY. THIS WAS NOTED DURING AUTOPILOT FINAL CHECKS.							
SYSTEM EFFECT-OPERATION DOES NOT START.							
VEHICLE EFFECT-NONE.							
CORRECTIVE ACTION-BOOSTER MPU HAND VALVE, MICROSWITCHES VS AND V1 ADJUSTED TO MAKE WIPER CONTACT.							
HYDRAULIC-A/B BOOSTER	60C/8MF63-040/01-401-00-39	FLIGHT	590 030701	9-1 -32.3	YES NO		007144
FAILURE MODE-LEAK. B1 HYDRAULIC ACCUMULATOR PRESSURE EXHIBITED NO PRESSURE DIFFERENCE DURING THE OIL EVACUATION SEQUENCE.							
SYSTEM EFFECT-POSSIBLE CONTAMINATION. ALTHOUGH THE FAILURE MODE INDICATES THE POSSIBILITY OF AIR IN THE BOOSTER HYDRAULIC SYSTEM, SYSTEM PERFORMANCE WAS SATISFACTORY.							
VEHICLE EFFECT-NONE.							
CORRECTIVE ACTION-NONE. THE POSSIBILITY OF CONTAMINATION WAS NOT CONFIRMED BY ANY OTHER TELEMETRY DATA.							
HYDRAULIC-A/B BOOSTER	60C/8MF63-039/82-401-00-177	FLIGHT	1770 030603	9-2 1.3	NO NO		007380
FAILURE MODE-OUT OF TOLERANCE. BOOSTER HYD ACCUM. PRESS MEASUR. H33P AND HYD. PUMP OUTLET PRESS. MEASUR H3P INDICATED AN INITIAL NORMAL PRESS. RISE BUT TO A LOWER (3190 PSIA) THAN NORMAL (3300 PSIA) PEAK AT 2.3 SEC. THE PRESS. THEN DECAYED TO 2720 PSIA DURING NEXT 1.3 SEC. SPECIFIC CAUSE UNKNOWN BUT SYMPTOMATIC OF UNUSUALLY HEAVY DEMAND ON SYSTEM.							
SYSTEM EFFECT-OPERATION TOO LOW. BOOSTER HYDRAULIC PRESS. LOWER THAN NORMAL FOR A TIME PERIOD OF -2.3 SEC TO 1.3 SEC. NO ADVERSE EFFECT NOTED ON SYSTEM PERFORMANCE.							
VEHICLE EFFECT-NONE.							
CORRECTIVE ACTION-NONE.							
HYDRAULIC-A/B BOOSTER	60C/22M63-019-0A1047-L4-7MO-01-71	COMPOSITE-FRD/DPL	7107 030410	2-4	YES NO		

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A

GENERAL DYNAMICS
CONVAIR DIVISION

19 JUN 1966

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTM	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B	50/AAGU03-001-27/FC-CO-02-0071-007 FUSE	COMPOSITE-FACTORY	7107 641118	YES NO			090001
FAILURE MODE-OPEN (ELECT). DURING POST-COMPOSITE DESTRUCT, THE 1.5 AMPS FUSES AT THE NOSECOM SIMULATOR DID NOT BLOW NOR DID THE DIRECTLINE RECORDER MONITORING THIS SIGNAL, DEFLECT.							
SYSTEM EFFECT-OPERATION DOES NOT START. FUSES MONITORING DESTRUCT SIGNAL AT THE NOSECOM SIMULATOR OR AGENA ADAPTER DID NOT BLOW.							
VEHICLE EFFECT-COMPOSITE RE-SCHEDULED. POST-COMPOSITE TESTING REQUIRED.							
CORRECTIVE ACTION-ARM FUSE HOLDER CAPS WERE REPLACED AND ALL PLUS3 AND INTERCONNECTING HARNESSES WERE CHECKED THOROUGHLY.							
RANGE SAFETY COMMAND-A/B	AK03-0003/FC-CO-02-0013-006 CONNECTOR ELECTRICAL	COMPOSITE-FACTORY	1890 630102	NO NO			090106
FAILURE MODE-FAIL DURING OPERATION-THE RSC SYSTEM FAILED TO OPERATE THROUGHOUT THE TEST DUE TO A LOOSE ELECTRICAL CONNECTOR IN THE TEST EQUIPMENT.							
CORRECTIVE ACTION-THE FAULTY ELECTRICAL CONNECTOR WAS INSTALLED CORRECTLY.							
RANGE SAFETY COMMAND-A/B	AK62-0060/P6-404-00-F1 HARNESS	COUNTDOWN	1040 680421	36A -7800	YES NO		091463
FAILURE MODE-CONTAMINATION. 306P2/E AND 306P3/E WERE READING CONTINUITY TO GROUND DURING INADVERTANT DEPARATION DESTRUCT SYSTEM APPARENTLY DUE TO WATER CONDENSATION.							
SYSTEM EFFECT-IMPROPER ANALOG SIGNAL.							
VEHICLE EFFECT-COUNTDOWN DELAYED. 141 MINUTES.							
CORRECTIVE ACTION-HEATED PURGE AIR WAS DIRECTED INTO WIRING FAIRING.							
RANGE SAFETY COMMAND-A/B	AE61-0096/FC-4CO-01-109	COMPOSITE-FACTORY	1090 611104	FACTORY NO	NO NO		090099
FAILURE MODE-OUTSIDE OF TOLERANCE. THE RANGE SAFETY COMMAND DC VOLTAGE WAS TOO LOW DURING THE TEST. THE VOLTAGE WAS SET TOO LOW IN THE GROUND TEST EQUIPMENT.							
SYSTEM EFFECT-OPERATION STOPS PREMATURELY-LOW BATTERY VOLTAGE WOULD RESULT IN DECREASED SENSITIVITY OR DECREASE IN RANGE OVER WHICH RSC WOULD BE ABLE TO RECEIVE AND DECODE COMMANDS.							
VEHICLE EFFECT-COMPOSITE RE-SCHEDULED. POST COMPOSITE CHECKS REQUIRED TO FIND CAUSE OF PROBLEM.							
CORRECTIVE ACTION-THE RANGE SAFETY/TLM CONTROL PANEL WAS READJUSTED FOR PROPER VOLTAGE.							

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GENERAL DYNAMICS
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B	AE61-0561/FC-400-03-093	COMPOSITE-FACTORY	93D 610920		NO NO		990107
FAILURE MODE-FAIL DURING OPERATION-A DROP OUT OF DESTRUCTS 1D, 1 AND NO. 2 ENABLE AND ALSO FLUCTUATIONS ON THE SCO AND MAIN MISSILE 24 VDC LINES WERE EVIDENT AT RANGE SAFETY COMMAND POWER CHANGEOVER FROM INTERNAL TO EXTERNAL DUE TO THE USE OF BREAK BEFORE MAKE TYPE TRANSFER SWITCHES IN THE MISSILE ELECTRIC CHECKOUT SET (AGE).							
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS.							
VEHICLE EFFECT-COMPOSITE RESCHEDULED. PARTIAL COMPOSITE RETEST WAS REQUIRED.							
CORRECTIVE ACTION-BREAK BEFORE MAKE TYPE POWER SWITCHES WERE REPLACED WITH MAKE BEFORE BREAK TYPE IN THE GROUND TEST EQUIPMENT.							
RANGE SAFETY COMMAND-A/B	AA61-0137/PE-403-00-111	COUNTDOWN	111D 810801	12 -1200	NO NO		990090
FAILURE MODE-FAILED TO OPERATE AT PRESCRIBED TIME. ASCO WAS SENT 3 TIMES BUT WAS NOT RECEIVED AT THE BLOCKHOUSE CONSOLE. THE PROBLEM WAS IMPROPER SETUP OF THE AMR TRANSMITTER.							
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. ASCO SIGNALS WERE NOT RECEIVED AS EXPECTED ON THE BLOCKHOUSE CONSOLE.							
VEHICLE EFFECT-NONE.							
CORRECTIVE ACTION-SETUP PROBLEM IN AMR TRANSMITTER CORRECTED.							
RANGE SAFETY COMMAND-A/B	AE61-0053/PC-500-02-017	COMPOSITE-FACTORY	17E 810110	FACTORY 25	NO NO		990120
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. AUTOMATIC FUEL CUTOFF 1 AND 2 DID NOT OCCUR AT 25 SECONDS AS EXPECTED, AND DESTRUCT 1 AND 2 DID NOT OCCUR AT 40 SECONDS AS EXPECTED. THE MODULATION DRAINER OF THE CHECKOUT SET WAS FOUND TO BE INTERMITTENT.							
SYSTEM EFFECT-OPERATION DOES NOT START.							
VEHICLE EFFECT-COMPOSITE RE-SCHEDULED. POST-COMPOSITE TESTING REQUIRED.							
CORRECTIVE ACTION-REPLACED AGE MODULATION DRAINER.							
RANGE SAFETY COMMAND-A/B	A2M-2T-240/PC-400-01-16	COMPOSITE-FACTORY	16D 940309		NO NO		990100
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME-DUE TO MALFUNCTION OF THE AGE POWER SUPPLY. AUTOMATIC FUEL CUTOFF DID NOT OCCUR.							
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. FAULTY POWER SUPPLY PREVENTED THE APCO COMMAND FROM OCCURRING.							
VEHICLE EFFECT-COMPOSITE RESCHEDULED.							
CORRECTIVE ACTION-REPLACED THE POWER SUPPLY. POST-COMPOSITE TESTING REQUIRED.							

15 JUN 1966

GENERAL DYNAMICS
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE OF TIME DIS	SITE TIME DIS	PRI OTH	VENDOR NAME VENDOR PART NO
RANGE SAFETY COMMAND-A/B	FT40275/F1-2CO-02-5	COMPOSITE-B FACT	58 580911	11	NO NO	
<p>FAILURE MODE-ERRATIC OPERATION. THE GROUND CARRIER SIGNAL FREQUENCY GENERATOR EXHIBITED INTERMITTENT OUTPUT.</p> <p>SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. INADVERTENT AUTOMATIC FUEL CUTOFFS WERE RECEIVED AND DESTRUCT SIGNAL DROPO UTS OCCURRED DUE TO THE INTERMITTENT SIGNAL FREQUENCY GENERATOR.</p> <p>VEHICLE EFFECT-NONE.</p> <p>CORRECTIVE ACTION-REPLACED SIGNAL GENERATOR AND RECHECKED SYSTEM OPERATION.</p>						
RANGE SAFETY COMMAND-A/B	FT4268/P2-1CO-01-10	COMPOSITE-B FACT	10A 571114	12	NO NO	
<p>FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. NO DESTRUCT OR CUTOFF COMMANDS WERE GENERATED DURING THE AUTOMATIC SEQUENCE DUE TO MISINTERPRETATION OF THE PROCEDURE.</p> <p>SYSTEM EFFECT-OPERATION DOES NOT START. NO DESTRUCT OR CUTOFF COMMANDS WERE GENERATED DURING THE AUTOMATIC SEQUENCE</p> <p>VEHICLE EFFECT-NONE.</p> <p>CORRECTIVE ACTION-RE-RAN THE PORTION THE COMMAND SYSTEM TEST WITH SATISFACTORY RESULTS.</p>						
RANGE SAFETY COMMAND-A/B DESTRUCTOR	50C/BRF85-061/91-401-00-129 PYROTECHNIC PRIMER	FLIGHT	1290 850929	B-1 1517.4	YES NO	
<p>FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. AN APPARENT LOW TEMPERATURE CONDITION AT THE DESTRUCTOR UNIT CAUSE D A MALFUNCTION OF THE PRIMER IN THE DESTRUCTOR PYROTECHNIC TRAIN.</p> <p>SYSTEM EFFECT-OPERATION DOES NOT START. DESTRUCT COMMAND RECEIVED AND ARMING DEVICE ACTIVATED HOWEVER, DESTRUCTOR P ACRAGE DID NOT DETONATE.</p> <p>VEHICLE EFFECT-NO VEHICLE DESTRUCT.</p> <p>CORRECTIVE ACTION-ECF 5429 (AMB), 3573 AND 3573R-1 (OLV-3) WERE ISSUED TO EFFECT THE FOLLOWING CHANGES. INSTALL NEW PRIMERS (B410067) IN DESTRUCTOR UNITS, REPLACE MOTOR DETONATORS IF LEAD ASIDE IS OLDER THAN 3 YEARS, REPLACE RDX BO OSTER PELLETS/ MAIN ME CHARGE IF RDX IS OLDER THAN 3 YEARS, AND DESIGN NEW DESTRUCTOR MOUNTING BRACKET (AMB) TO PROV IDE GREATER THERMAL ISOLATION BETWEEN DESTRUCTOR UNIT AND VEHICLE LOX TANK.</p>						
RANGE SAFETY COMMAND-A/B DESTRUCTOR	AG403-001-33/PC-CO-01-0071-010 DESTRUCTOR	COMPOSITE-FACTORY	7110 080116		YES NO	
<p>FAILURE MODE-FAILED TO OPERATE AT PRESCRIBED TIME. MIDWESTERN RECORDER MONITORING DISTRICT NO.1 FAILED TO SHOW THE DESTRUCT NO.1 FUNCTION. TELEMETRY VERIFIED THAT BOTH DESTRUCTS 1 AND 2 WERE SENT.</p> <p>SYSTEM EFFECT-OPERATION DOES NOT START.</p>						

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GENERAL DYNAMICS
CONVAIR DIVISION

13 JUN 1964

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO	
	VEHICLE EFFECT-COMPOSITE RE-SCHEDULED. POST-COMPOSITE TESTING REQUIRED. CORRECTIVE ACTION-DIFFICULTY COULD NOT BE DUPLICATED. HOWEVER, SINCE THE ARMING DEVICE WAS MOST SUSPECT IT WAS REPLACED.						999900
RANGE SAFETY COMMAND-A/B DESTRUCTOR	/B1-4NO-02-100	COMPOSITE-FRD/DPL	1000 041230	B1	NO NO		000110
FAILURE MODE-OPEN ELECT. A RANGE SAFETY SAFE INDICATION WAS NOT RECEIVED AT THE O AND C CONSOLE DUE TO A DISCONNECTED SWAP RING ALLOWING A PLUG TO BE OPEN. PLUG WAS IN GSE EQUIPMENT. SYSTEM EFFECT-NONE. VEHICLE EFFECT-COUNTDOWN DELAYED. CORRECTIVE ACTION-GSE SWAP RING REINSTALLED AND PLUG RECONNECTED.							000110
RANGE SAFETY COMMAND-A/B DESTRUCTOR	/A1-401-00-210	COUNTDOWN	2100 041120	A-1	NO NO		000110
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. NEITHER THE ARMED OR THE SAFE INDICATION WAS RECEIVED AT THE O AND C CONSOLE DURING THE RANGE SAFETY CHECK. SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. VEHICLE EFFECT-COUNTDOWN DELAYED. CORRECTIVE ACTION-O AND C CONSOLE POWER CYCLED AND SATISFIED ARMED INDICATION RECEIVED.							000870
RANGE SAFETY COMMAND-A/B DESTRUCTOR	00A1902-2 DESTRUCTOR ASSEMBLY, EXPLOSIVE, NI 2T-04306-001 831LEDORNE	UTP-PRT EXPLOSIVE, NI 2T-04306-001	041105	GO/C	YES NO	DECKMAN-WHITE NO Y 101130	000870
FAILURE MODE-OUT OF TOLERANCE. DURING EXAMINATION OF PRODUCT THE FOLLOWING DISCREPANCIES WERE NOTED: NO TORQUE PAINT ON CONNECTOR HOLD DOWN SCREWS, INCORRECT NOMENCLATURE OF PART, NO EXPLOSIVE CLASSIFICATION, NO STOCK NUMBER NOR REVISION LETTER ON NAME PLATE, AND SEVERAL DIMENSIONAL OUT-OF-TOLERANCES. CORRECTIVE ACTION-CORRECTIVE ACTION INITIATED AT BOTH GO/C & C AND VENDOR G.C. TO PREVENT RECURRENCE OF THESE DEFECTS.							

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RANGE SAFETY COMMAND-A/B DESTRUCTOR	89C1992.1B DESTRUCTOR ARMING SHAF	UTP-PRI 27-04308-1	641023	GD/C	YES NO	YES DECKMAN/WHITTE NO Y 175-90-3	899079
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. DURING SATISFACTORY PERFORMANCE TEST. THE UNIT FAILED TO SWITCH FROM ARM TO SAFE POSITION. VENDOR COULD NOT DUPLICATE FAILURE. TESTING WAS RESUMED AND ON 11-8-83 THE UNIT AGAIN FAILED TO SWITCH FROM ARM TO SAFE POSITION. DISASSEMBLY REVEALED THAT A LOCK WASHER HAD BEEN ADDED PERMITTING THE SHAF T O OVER TRAVEL.							
CORRECTIVE ACTION-UNIT? RETESTED AFTER ADDING A WASHER BETWEEN THE SHAF FACE AND THE SUPPORTING NUT TO COMPENSATE FOR THE THICKNESS OF THE LOCK WASHER. THE UNIT PERFORMED SATISFACTORILY. ECP 7379 AUTHORIZED REMOVAL OF DESTRUCTOR UNIT IS TO COMPENSATE FOR THE LOCK WASHER. ECP 7379 CREATED THE -001 CONFIGURATION WHICH SATISFACTORILY PASSED UTP TESTING . (REF. FRM 042C).							
RANGE SAFETY COMMAND-A/B DESTRUCTOR	A-90-18-030F RESISTOR	PAR 27-04308-3	621107	WTR	YES NO	YES DECKMAN/WHITTE NO Y 175-90-1	898744
FAILURE MODE-OUT OF TOLERANCE. RESISTANCE READING FROM PIN J TO K TOO HIGH. A SERIES 100K RESISTOR HAD INCREASED IN VALUE.							
CORRECTIVE ACTION-PROCEDURE 27-93403 CHANGED TO WIDEN TOLERANCE OF PIN J TO K TO BE 75K TO 125K.							
RANGE SAFETY COMMAND-A/B DESTRUCTOR	MZ-50-18-043F DESTRUCTOR	PAR 27-04230F	621084	WTR	YES NO	YES AVCO NO	893928
FAILURE MODE-SHORT (ELECT). THE DESTRUCTOR EXHIBITED A SHORT BETWEEN PIN C AND PIN D. IN SEPT. 1983 THE DESTRUCTOR WAS RECEIVED FOR FAILURE ANALYSIS. THE REPORTED FAILURE COULD NOT BE CONFIRMED.							
CORRECTIVE ACTION-SINCE THE FAILURE COULD NOT BE CONFIRMED, THERE WAS NO CORRECTIVE ACTION.							
RANGE SAFETY COMMAND-A/B DESTRUCTOR	AR141-0-3-21/PC-8CO-02-021	COMPOSITE-FACTORY	21F 011229		YES NO		890096
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. THE 1.3 AMPERE FUSE FOR COMMAND DESTRUCTOR NO.1 FAILED TO OPEN DURING THE TEST.							
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS.							
VEHICLE EFFECT-COMPOSITE RESEMEDIALED-COMPOSITE RE-RAN SATISFACTORILY.							
CORRECTIVE ACTION-REPLACED DESTRUCTOR SUBSTITUTION. UNIT.							

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RANGE SAFETY COMMAND-A/B DESTRUCTOR	AA81-0193/P4-4CO-03-93 RSC FUSE HOLDER	COMPOSITE-J FACT 27-04306-3	93D 811124	14	YES NO	
FAILURE MODE-ELECTRICAL OPEN. INTERMITTENT ELECTRICAL CONTACT CAUSED BY LOOSE FUSE HOLDER. RSC FUSE FAILED TO BLOW ON DESTRUCT COMMAND.						
SYSTEM EFFECT-OPERATION DOES NOT START. RSC 1.5 AMP TEST FUSE FAILED TO BLOW UPON DESTRUCT COMMAND.						
VEHICLE EFFECT-NONE.						
CORRECTIVE ACTION-UNKNOWN.						
RANGE SAFETY COMMAND-A/B DESTRUCTOR	AR141-0-3-11/FC-8CO-03-011 CONNECTOR, ELECT.	COMPOSITE-FACTORY	11F 811103		YES NO	
FAILURE MODE-ELECTRICAL OPEN. THE 1 AMP FUSES IN THE RANGE SAFETY DESTRUCTOR SUBSTITUTION BOX FAILED TO OPEN. IT WAS DISCOVERED THAT PLUG 304MT1P1 HAD TWO OPEN WIRES. THE PLUG WAS REMOVED.						
SYSTEM EFFECT-OPERATION DOES NOT START.						
VEHICLE EFFECT-COMPOSITE RESCHEDULED. COMPOSITE RE-RUN.						
CORRECTIVE ACTION-PLUG REMOVED.						
RANGE SAFETY COMMAND-A/B DESTRUCTOR	A2M-27-409/FC-4CO-03-49 FUSE	COMPOSITE-FACTORY	48D 800319		YES NO	
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. THE DESTRUCT SIGNAL AT T PLUS 6 FAILED TO BLOW ONE OF THE 1.5 AMP. FUSES IN THE RSC DESTRUCT SUBSTITUTION BOX.						
SYSTEM EFFECT-LOSS OF REDUNDANCY. NO. 2 DESTRUCT COMMAND FAILED TO BLOW FUSE.						
VEHICLE EFFECT-COMPOSITE DELAYED.						
CORRECTIVE ACTION-NONE. POST-COMPOSITE TESTS WERE MADE TO FIND FAULT. DISCREPANCY COULD NOT BE REPEATED.						
RANGE SAFETY COMMAND-A/B DESTRUCTOR	PTA8479/P2-106-00-10	COUNTDOWN	10A 380107	12 -7800	YES NO	
FAILURE MODE-OUT OF TOLERANCE. STRAY VOLTAGE SIGNAL WAS PICKED UP ON THE YELLOW DESTRUCT BOX METER.						
SYSTEM EFFECT-OPERATION TOO HIGH. STRAY VOLTAGE SIGNAL WAS DETECTED ON THE YELLOW DESTRUCT BOX METER WHERE THERE SHOULD HAVE BEEN NO VOLTAGE.						
VEHICLE EFFECT-COUNTDOWN DELAYED. APPROXIMATELY 10 MINUTES OF HOLD TIME SHARED WITH OTHER PROBLEMS.						

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CORRECTIVE ACTION-INVESTIGAD AND CHECKED DESTRUCT SYSTEM VOLTAGES. SUSPICION WAS UNFOUNDED.							097712
RANGE SAFETY COMMAND-A/B DESTRUCTOR	EM-344/106, D-4 FUSE	CAPTIVE	3A 370927	8-1	YES NO		094031
FAILURE MODE-FAILED TO OPERATE AT PRESCRIBED TIME. THE DESTRUCT COMMAND WAS SENT BUT THE FIRING OF THE FUSES IN THE DESTRUCTOR BOX WAS NOT ACCOMPLISHED.							
SYSTEM EFFECT-OPERATION DOES NOT START. A POST TEST EXAMINATION REVEALED THAT IMPROPER FUSES HAD BEEN INSTALLED.							
VEHICLE EFFECT-NONE.							
CORRECTIVE ACTION-PROPER FUSES WERE TO BE INSTALLED FOR THE NEXT TEST. ALSO THE VOLTAGE ACROSS THE RESISTOR-FUSE COMBINATION WAS TO BE INSTRUMENTED.							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	P4-7CD-01-3302 SWITCH-ARM-SAFE	COMPOSITE-B FACT 640208	5302	ETRI4	YES NO		090393
FAILURE MODE-DURING RSC TESTS DIFFICULTIES WERE EXPERIENCED WITH THE NUMBER 2 DESTRUCT SIGNAL.							
SYSTEM EFFECT-LOSS OF REDUNDANCY.							
VEHICLE EFFECT-TEST ABORTED.							
CORRECTIVE ACTION-THE ARM SWITCH WAS REPLACED.							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	02C4604 ARMING DEVICE	UTP-PAT 27-34244-3	051119		YES NO		090379
FAILURE MODE-INSPECTION REVEALED 3 OUT-OF-TOLERANCE DIMENSIONAL MEASUREMENTS. NONE WOULD AFFECT OPERATIONAL PERFORMANCE							
CORRECTIVE ACTION-INSPECTION DIRECTED TO ASSURE THAT ALL UNITS MEET DIMENSIONAL REQUIREMENTS.							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	2LV-AB-18-131-P ARMING DEVICE, SWITCH MOTOR	PAR 27-34244-3	7117	FACTORY	YES NO		090377
FAILURE MODE-ELECTRICAL OPEN. THE ARMING DEVICE WAS INOPERATIVE BECAUSE THE POWER CHANGEOVER SWITCH 8-1 HAD A BURNED AND OPEN-CIRCUITED MOTOR. THE FAILURE WAS CONFIRMED, HOWEVER, THE CAUSE OF THE FAILURE WAS NOT CONFIRMED.							
CORRECTIVE ACTION-NO CORRECTIVE ACTION WAS TAKEN.							
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RANGE SAFETY COMMAND-A/B ARMING DEVICE	N2-A9-18-128-F ARMING DEVICE, RELAY	FAR 27-38244-1	209D 050219	FACTORY	YES NO		004127
FAILURE MODE-FAIL DURING OPERATION. THE ARMING DEVICE FAILED WHEN IT HAD NO OUTPUT FROM THE NUMBER 2 DESTRUCTOR MONITOR, PIN M, J-25. THE FAILURE WAS CONFIRMED IN ANALYSIS, AND THEN LOST. THE BURNED CONTACTS IN RELAY K-2 COULD CAUSE THE FAILURE BY PREVENTING RELAY CONTACT. A SHORT CIRCUIT COULD HAVE BURNED THE RELAY CONTACTS.							
CORRECTIVE ACTION-SINCE THE EXACT CAUSE OF FAILURE WAS NOT RESOLVED, THERE WAS NO CORRECTIVE ACTION.							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	SLV-A9-18-128-F ARMING DEVICE	FAR 27-38244-2	050121	FACTORY	YES NO		004128
FAILURE MODE-FAIL DURING OPERATION. THE ARMING DEVICE DID NOT PASS THE DESTRUCT SIGNAL TO THE DESTRUCT SIMULATOR AND NOSECURE DURING COMPOSITE TESTING. THE FAILURE WAS NOT CONFIRMED, ALTHOUGH ALL EVIDENCE INDICATES THE FAILURE HAD OCCURRED.							
CORRECTIVE ACTION-SINCE THE FAILURE WAS NOT CONFIRMED, THERE WAS NO CORRECTIVE ACTION. HOWEVER, THE VENDOR OF THE P OVER CHANGEOVER SWITCH WAS INFORMED OF THE ANALYSIS AND THE POTENTIAL PROBLEM OF CORRODED PINS.							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	LV-A9-18-127-F RELAY	FAR 27-38244-3	204D 041130	FACTORY	YES NO		004129
FAILURE MODE-OUT OF TOLERANCE. THE ARMING DEVICE FAILED WHEN RESISTANCE MEASUREMENTS AT THE UPPER-STAGE DISCONNECT PLUG J-106, PINS B TO F AND PINS LITTLE B TO F, READ 10 KILOHMS. BOTH READINGS SHOULD READ 100, PLUS OR MINUS 10 KIL OHMS. WHEN A SUBSTITUTE ARMING DEVICE WAS CONNECTED, RESISTANCE READINGS WERE NORMAL. THE FAILURE WAS UNCONFIRMED. IT COULD HAVE BEEN CAUSED BY AN INCORRECT READING OF THE OHMMETER SCALE OR POSSIBLY BY STICKING RELAY CONTACTS IN THE ARMING DEVICE.							
CORRECTIVE ACTION-SINCE THE CAUSE OF FAILURE COULD NOT BE DETERMINED, THERE WAS NO CORRECTIVE ACTION.							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	SLV-90-18-118-F	FAR 27-38244-5	69-0089- WTR 1 040424		YES NO		
FAILURE MODE-FAIL DURING OPERATION. THE ARMING DEVICE WOULD NOT PASS ENOUGH CURRENT TO BLOW A ONE AMPERE FUSE WHICH SIMULATES MISSILE DESTRUCTOR. THE FAILURE IS ATTRIBUTED TO AN ASSEMBLY FOR A P/N 27-38244-1 ARMING DEVICE BEING INS TALLED IN THIS P/N 27-38244-5 ARMING DEVICE.							
CORRECTIVE ACTION-TOOL LIAISON REQUEST 90749, 14 MAY 1964, REQUESTED A PLANNING CHANGE TO REQUIRE IDENTIFICATION OF							

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ARMING DEVICES BEFORE FUNCTIONAL TESTING. EOP 325.13 WAS CHANGED 19 MAY 1964 TO INCLUDE A RESISTANCE CHECK OF THE - 1 ARMING DEVICE.							093914
RANGE SAFETY COMMAND-A/B ARMING DEVICE	SLV-9D-18-113-F ARMING DEVICE, RELAY	FAR 27-38244-3	99-DD98- WTR D1 840408		YES NO		093913
FAILURE MODE-ELECTRICAL OPEN. THE ARMING DEVICE WOULD NOT PASS A DESTRUCT SIGNAL. THE FAILURE WAS ATTRIBUTED TO AN OPEN CONTACT IN RELAY R-2, COUCH 4A378. THE MOST PROBABLE CAUSE OF THE OPEN CONTACT IS A FOREIGN PARTICLE, ALTHOUGH NONE WAS FOUND IN THE RELAY. THE REASON FOR CHANGED WIRES IN THE ARMING DEVICE WAS NOT FOUND.							
CORRECTIVE ACTION-SINCE THE EXACT CAUSE OF OPEN RELAY CONTACTS WAS NOT FOUND, THERE WAS NO CORRECTIVE ACTION.							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	A-99-18-110-F ARMING DEVICE	FAR 27-38244-1	840304	FACTORY	YES NO	50C	094410
FAILURE MODE-FAIL DURING OPERATION. THE ARMING DEVICE FAILED EOP 325.13.1, PARAGRAPH 5.3.2, WHEN TRANSIENTS WERE OBSERVED ON THE OSCILLOSCOPE. THE REPORTED FAILURE WAS NOT CONFIRMED.							
CORRECTIVE ACTION-SINCE THE FAILURE WAS NOT CONFIRMED THERE WAS NO CORRECTIVE ACTION ON THIS ARMING DEVICE. BUT, AN INSPECTION SURVEILLANCE SHEET, DATED 10 APRIL 1964, INITIATED CORRECTIVE ACTION TO MODIFY CABLING ON TA3933, S/N 2.							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	LV-99-18-106-F ARMSAFESWITCHRELAY	FAR 97-37003-001	840102	FACTORY	YES NO	COUCH 4A378	094502
FAILURE MODE-OUT OF TOLERANCE. A SET OF CLOSED CONTACTS IN THE ROTARY RELAY MOMENTARILY OPEN-CIRCUITED DURING A SHOCK TEST. THE FAILURE IS ATTRIBUTED TO AN INADEQUATE ADJUSTMENT OF THE PUSHER ARM. WHEN THE RELAY WAS ENERGIZED THE PUSHER ARM EXERTED A SMALLER CONTACT FORCE THAN NORMAL.							
CORRECTIVE ACTION-THE VENDOR WAS INFORMED OF THE FAILURE AND ASKED TO MODIFY HIS INSPECTION AND ASSEMBLY PROCEDURES.							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	LV-99-18-107-F ARMSAFESWITCHRELAY	FAR 97-37003-001	831219	FACTORY	YES NO	COUCH 4A378	
FAILURE MODE-OUT OF SPECIFICATION. FOUR RELAYS FAILED, 19 DEC. 1963, 2 JAN. 1964, 8 JAN. 1964 AND 13 JAN. 1964, WHEN EACH RELAY EXHIBITED AN EXCESSIVE SWITCHING TIME. THE FAILURES ARE ATTRIBUTED TO AN EXTREMELY NARROW SPECIFICATION FOR RELAY PULL-IN TIME. THE SPECIFICATION WAS TOO NARROW FOR RELAY CLOSURE. SPECIFICATION REQUIRED REVISION.							

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VEHICLE EFFECT-NONE.							004803
	CORRECTIVE ACTION-SPECIFICATION 27-03008, AMENDMENT C, PARAGRAPH 3.6.3.2.3 AND EOP 325.13 WERE CHANGED TO INCREASE THE PULL-IN TIME FROM 20 TO 25 MILLISECONDS.						
RANGE SAFETY COMMAND-A/B ARMING DEVICE	60A-AP264-DL702-001-00-109 RE-ENTRY VEHICLE SEPARATION SWITCH	FLIGHT	109F 031210	087F-2 920	YES NO		000803
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. PLANNED FRAGMENTATION OF MISSILE TANK DID NOT OCCUR. R/V SEPARATION SWITCH WHICH MUST CLOSE IN ORDER TO ENABLE FRAGMENTATION SYSTEM WAS WIRED INCORRECTLY SO THAT IT OPENED INSTEAD OF CLOSING AT R/V SEPARATION. INSTALLATION T.O. 11N-RV-2 WAS IN ERROR.							
SYSTEM EFFECT-OPERATION DOES NOT START. THE FRAGMENTATION SYSTEM WAS NOT ENABLED DUE TO THE MISWIRED SWITCH.							
VEHICLE EFFECT-COMMAND NOT RECEIVED. THE FRAGMENTATION SIGNAL WAS SENT BY THE AUTOPILOT BUT WAS NOT RECEIVED BECAUSE THE SYSTEM HAD NOT BEEN ENABLED.							
CORRECTIVE ACTION-850 WAS INFORMED OF THE ERROR IN T.O. 11N-RV-2 AND WAS REQUESTED TO MAKE THE NECESSARY CORRECTIONS. ACTION WAS TAKEN TO CORRECT THIS ITEM.							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	69A2044.2 POWER CHANGE OVER SWITCH-MOTOR	UTP-PRT 7-01722-3	630930	50/C	YES KINETICS NO M372-4		000877
FAILURE MODE-ELECTRICAL OPEN. DURING THE INITIAL SATISFACTORY PERFORMANCE TEST ON RSC ARMING DEVICE (P/N 27-36244-3). THE SPECIMEN EXHIBITED AN OPEN CIRCUIT BETWEEN 3 AND 8 OF PLUG J25. THE POWER CHANGEOVER SWITCH ASSEMBLED IN THE ARMING DEVICE FAILED TO TRANSFER COMPLETELY. DISASSEMBLY OF SWITCH REVEALED BURNED MOTOR WINDINGS.							
CORRECTIVE ACTION-NONE, RANDOM FAILURE. TEST CONTINUED WITH NEW UNIT. CARR F-4030-302 ISSUED TO ASSURE THAT ACCIDENTAL APPLICATION OF VOLTAGES TO BOTH WINDINGS OF MOTOR WILL NOT OCCUR. (REF' FRR 021A).							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	A-99-19-088-F ARMING DEVICE	FAR 27-36244-1	630920	FACTORY	NO NO		003800
FAILURE MODE-CONTAMINATION. THE ARMING DEVICE REPORTEDLY FAILED WHEN IT SHOWED EVIDENCE OF LOOSE HARDWARE FOLLOWING VIBRATION TESTS. THE REPORTED FAILURE WAS UNCONFIRMED. THERE WAS NO LOOSE HARDWARE IN THE DEVICE.							
CORRECTIVE ACTION-SINCE THE REPORTED FAILURE WAS UNCONFIRMED, THERE WAS NO CORRECTIVE ACTION.							

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RANGE SAFETY COMMAND-A/B ARMING DEVICE	SP-49-18-087-F SWITCH, CHANGE-OVER-BEARING	FAR 27-38246-3	830914	FACTORY	YES NO		8940367
FAILURE MODE-STRUCTURAL. THE ARMING DEVICE FAILED DUE TO AN OPEN CIRCUIT BETWEEN PINS 8 AND 8 OF J-23. THE FAILURE IS ATTRIBUTED TO A BROKEN BEARING IN THE POWER CHANGE-OVER SWITCH. THE BEARING WAS BROKEN BY MISALIGNMENT OF THE MOUNTING BOARD AND BEARING FLANGE.							
CORRECTIVE ACTION-THE VENDOR TOOLING WAS IMPROVED. THE IMPROVED TOOLING ELIMINATES THE POSSIBILITY OF MISALIGNMENT, AS ALL HOLES CRITICAL TO ALIGNMENT ARE DRILLED AT ONE TIME.							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	SP-99-18-083-F CANISTER	FAR 27-38244-1	830715	FACTORY	YES NO		8940355
FAILURE MODE-CONTAMINATION. THE ARMING DEVICE FAILED WHEN IT SHOWED EVIDENCE OF LOOSE PARTICLES INSIDE THE SEALED UNIT. THE FAILURE IS ATTRIBUTED TO AN IMPROPER FIT BETWEEN THE ARMING DEVICE HOUSING AND THE LID. THE IMPROPER FIT ALLOWED SOLDER TO FLOW AROUND THE INSIDE OF THE SEAM. THE SOLDER LATER BROKE LOOSE AND WAS FREE TO MOVE INSIDE THE CANISTER.							
CORRECTIVE ACTION-INSPECTION PERSONNEL WERE ALERTED TO CAREFULLY SCRUTINIZE THE LID AND CANISTER SURFACES. PLANNING CHANGE REQUEST 13756 DATED MAY 26, 1964, INITIATED INTO OPERATIONAL PLANNING THE NEW PROCEDURES FOR INDUCTION SOLDERING THE ARMING DEVICE END PLATES TO THE CASE.							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	A-99-18-084-F	FAR 7-01782-3	830429	FACTORY	YES NO	KINETICS 7-172-4	8940366
FAILURE MODE-OUT OF TOLERANCE. THE POWER CHANGE-OVER SWITCH REPORTEDLY FAILED WHEN THE ACTUATION TIME OF RELAY K-1 WAS SLOWER THAN SPECIFIED IN EOP 329-13. SINCE THIS SWITCH DOES NOT AFFECT ACTUATION TIME OF THE RELAY, AND THE ARMING DEVICE WAS REPAIRED, THE FAILURE ANALYSIS COULD NOT BE COMPLETED.							
CORRECTIVE ACTION-NO CORRECTIVE ACTION WAS TAKEN BECAUSE THE FAILURE WAS NOT CONFIRMED, AND THE ANALYSIS COULD NOT BE COMPLETED.							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	A-99-18-077-F SWITCH, CHANGE-OVER-BEARING	FAR 27-38236-3	830529	FACTORY	YES NO		
FAILURE MODE-STRUCTURAL. THE POWER-AND-SIGNAL CONTROL UNIT FAILED WHEN THERE WAS AN OPEN-CIRCUIT BETWEEN PINS 7 AND 3 OF PLUG P-4. ANALYSIS ATTRIBUTED THE FAILURE TO A BROKEN BEARING IN POWER CHANGE-OVER SWITCH 8-8. THE BEARING WAS BROKEN BY MISALIGNMENT OF THE MOUNTING BOARD AND BEARING FLANGE.							

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CORRECTIVE ACTION-THE VENDOR IMPROVED TOOLING USED IN THE MANUFACTURE OF THE SWITCH. THE IMPROVED TOOLING ELIMINATE S THE POSSIBILITY OF MISALIGNMENT AS ALL HOLES CRITICAL TO ALIGNMENT ARE DRILLED AT ONE TIME.						
RANGE SAFETY COMMAND-A/B ARMING DEVICE	SP-99-18-071F ARMING DEVICE	FAR 27-38244-3	83D401	FACTORY	YES GDC NO	693641
FAILURE MODE-OPEN (ELECT). THE ARMING DEVICE FAILED A CHECKOUT BECAUSE THERE WAS AN OPEN CIRCUIT BETWEEN PINS B AND C OF J-27, AND PINS E AND N OF J-25. ANALYSIS SHOWED THAT THERE WERE NO WIRES CONNECTED TO PINS E AND N OF J-25 . THE CAUSE OF FAILURE WAS ATTRIBUTED TO AN ASSEMBLY FOR A 27-38244-1 ARMING DEVICE BEING INSTALLED IN THIS 27-38244 -3 ARMING DEVICE.						
CORRECTIVE ACTION-PRODUCTION AND TEST PERSONNEL WERE CAUTIONED TO EXERCISE CARE. THE CHECK SHEET FOR EOP 325-13 WAS AMENDED TO INCLUDE RECORDING OF RESISTANCE READINGS REQUIRED IN THE EOP.						
RANGE SAFETY COMMAND-A/B ARMING DEVICE	SP-99-18-083-F RELAY	FAR 97-37005-001	830322	FACTORY	YES COUCH ORDNANCE NO 4A37-8	690757
FAILURE MODE-FAIL DURING OPERATION-REPORTED POOR CLOSING OF CONTACTS 5 AND 6 AND VIBRATION SENSITIVITY. FAILURE COU LD NOT BE CONFIRMED.						
CORRECTIVE ACTION-UNKNOWN						
RANGE SAFETY COMMAND-A/B ARMING DEVICE	SP-99-18-067-F SWITCH-CHANGEOVER	FAR 39-38041-1	830315	FACTORY	YES KINETICS NO	698716
FAILURE MODE-SHORT (ELECT) FROM PIN C2 TO C3 CAUSED DAMAGE DURING PRODUCTION HYPOT TEST. CAUSE ATTRIBUTED TO THE WE NOOR.						
CORRECTIVE ACTION-VENDOR REVIEWED HYPOT TESTING AND HAS TAKEN CORRECTIVE ACTION.						
RANGE SAFETY COMMAND-A/B ARMING DEVICE	A-99-18-032-F ARMING DEVICE	FAR 27-38244-1	821214	FACTORY	YES GDC NO	693641
FAILURE MODE-ELECTRICAL SHORT. HIGH RESISTANCE BETWEEN PINS 9 AND N, 8 AND M, W AND X WAS REPORTED. QUANTITY OF BOLV ENT IN CANISTER DISSOLVED PAINT AND CREATED ELECTRICAL LEAKAGE PATHS.						
CORRECTIVE ACTION-RAR A-99-18-36- REQUESTED MOTOR STRUMENT INSPECTION. GO/C AND REQUESTED THAT CANISTER NOT BE INN						

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EFSED IN SOLVENT.							000749
RANGE SAFETY COMMAND-A/B ARMING DEVICE	A-90-10-0477 DIODE	FAR 27-30319-1	139D 021010	WTR	YES NO	GOC	000743
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME-TANK FRAGMENTATION ARM AND ENABLE UNIT SAFE LIGHT ON GSE WAS EXTINGUISHED DURING CHECK OUT. CAUSED BY A DIODE INSTALLED BACKWARDS. DIODE MARKED IMPROPER.							
CORRECTIVE ACTION-VENDOR TIGHTENED INSPECTION AND IMPROVED TEST PROCEDURES TO PREVENT MISMATCHED DIODES FROM REACHING CUSTOMERS.							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	NZ-90-10-048-F ARMING DEVICE, RELAY	FAR 27-30244-1	159D 021000	WTR	YES NO	GOC	003030
FAILURE MODE-OPEN CIRCUIT. DURING CHECKOUT AN OPEN-CIRCUIT WAS FOUND BETWEEN PINS L AND P OF RELAY K38 OF THE ARMING DEVICE. ANALYSIS TRACED THE DISCREPANCY TO CONTAMINATION OF THE NORMALLY-CLOSED CONTACTS OF RELAY K-2.							
CORRECTIVE ACTION-SINCE THE CONTAMINATION MATERIAL WAS LOST DURING ANALYSIS NO CORRECTIVE ACTION WAS TAKEN. THE VENDOR WAS SENT THE RESULTS OF THE ANALYSIS.							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	NZ-90-10-048-F SWITCH-CHANGEOVER	FAR 27-30244	159D 020020	WTR	YES NO	GOC	000039
FAILURE MODE-ELECTRICAL OPEN. SWITCH WOULD NOT DRIVE TO EITHER THE INTERNAL OR EXTERNAL POSITION. THE CENTER TAP OF THE MOTOR WAS BURNED OPEN CAUSE COULD NOT BE DETERMINED.							
CORRECTIVE ACTION-UNKNOWN.							
RANGE SAFETY COMMAND-A/B ARMING DEVICE	A-90-10-059-F CANISTER	FAR 27-30244-1	32E 021010	ETR	YES NO	GOC	003960
FAILURE MODE-FAIL DURING OPERATION. DURING A TLM COMPATIBILITY TEST IT WAS NECESSARY TO ACTUATE THE RF SYSTEM READY SWITCH WHICH IN TURNED ARMED THE MISSILE. THE MISSILE SAFE LIGHT ON THE RF SYSTEM PANEL FAILED TO ILLUMINATE. IN ANALYSIS THE SWITCH WAS REMOVED FROM THE ARMING DEVICE AND OPERATED PROPERLY. THE FAILURE WAS NOT CONFIRMED.							
CORRECTIVE ACTION-SINCE THE FAILURE COULD NOT BE DUPLICATED IN ANALYSIS, THERE WAS NO CORRECTIVE ACTION.							

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GENERAL DYNAMICS
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE OF TIME DIF	SITE	PRJ OTH	VENDOR NAME VENDOR PART NO
RANGE SAFETY COMMAND-A/B ARMING DEVICE	AS-18-004 SWITCH-ARM/SAFE, WIRING	FAR 27-81024-11	990500	FACT.	YES NO	CONVAIR
FAILURE MODE-ELECTRICAL SHORT. UNIT REJECTED FOR INDICATION OF A SHORT. INVESTIGATION SHOWED THAT ONE ARMING SWITCH MOTOR BRUSH WIRE WAS BURNED THROUGH. POWER WAS APPLIED TO BOTH SIDES OF THE ARM SWITCH MOTOR FIELD WINDING DURING MISSILE FINAL CHECKOUT DUE TO AN INCORRECT PROCEDURE.						
CORRECTIVE ACTION-60/C PROCEDURE 27-92038 CHANGED TO INCLUDE REMOVAL OF CORRECT NUMBER OF CABLES FROM POWER DISTRIBUTION TRAILER. CABLES ARE P501, P502, P503, AND P504.						
RANGE SAFETY COMMAND-A/B ARMING DEVICE	CT-99-18-030 ARMING DEVICE, RELAY	FAR 27-36244-801		FACTORY	YES NO	60/C
FAILURE MODE-OUT OF TOLERANCE. UNIT WAS 0.3 OHMS HIGH WHEN CHECKED TO PARAMETERS DOCUMENT AY-62-004, SECTION 9.1.0A. SOME CONTAMINANT WAS APPARENTLY ON CONTACTS 12 TO 14, OF RELAY R1.						
CORRECTIVE ACTION-UNKNOWN. RELAY MANUFACTURER ADVISED OF THIS FAILURE INFORMATION ONLY.						
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	CT-71-18-027 POWER AND SIGNAL CONTROL UNIT, DIO 27-36238-021 DE	FAR 27-36238-021	060127	FACTORY	YES NO	60/C
FAILURE MODE-ELECTRICAL OPEN. UNIT WAS REJECTED AT THE CONVAIR COMBINED SYSTEMS TEST STAND ON AN ATLAS BOOSTER WHEN IT WAS FOUND TO HAVE AN OPEN DIODE. DIODE CR-8 WAS FOUND BURNED OPEN DUE TO EXCESSIVE CURRENT.						
CORRECTIVE ACTION-CONFIRMED FAILURE. PROCEDURES TO BE REVISED TO REQUIRE MAIN MISSILE D-C POWER BE TURNED ON WHENEVER THE RBC TEST IS CONDUCTED.						
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	69C4807.1 POWER AND SIGNAL CONTROL UNIT, DIO 27-36238-013 DE	UTP-PAT 27-36238-013	091129		YES NO	60/C
FAILURE MODE-TEST INDICATED OPEN IN CIRCUIT CONTAINING DIODES CR-11 AND CR-12. PROBABLE CAUSE WAS TESTING ERROR IN WHICH DIODES WERE TO SUBJECTED EXCESS OF RATED CURRENT WITH REVERSED POLARITY.						
CORRECTIVE ACTION-TEST LABS DIRECTED TO TAKE EXTREME PRECAUTIONS IN APPLYING PROPER VOLTAGE AND POLARITY						

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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SIG-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	PTAB562/P4-TCO-03-9301 DIODE	COMPOSITE-B FACT	9301 890709	14	YES NO	890811
FAILURE MODE-ELECTRICAL SHORT. MEASUREMENT DIV, RSC CUTOFF OUTPUT, INDICATED RECEIPT OF SECO AND VECO WHEN NO RSC SIGNALS WERE TRANSMITTED. INVESTIGATION REVEALED THAT TWO DIODES IN THE RSC POWER AND SIGNAL CONTROL UNIT HAD FAILED.						
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. AT SECO THE MEASUREMENT WENT TO 80 PERCENT ISM AND REMAINED AT THAT LEVEL UNTIL VECO. AT VECO THE MEASUREMENT WENT GREATER THAN 100 PERCENT ISM. THESE DISCRETES WERE FEED IN FROM THE PROGRAM MER AND WERE NOT GENERATE FROM THE RSC SYSTEM.						
VEHICLE EFFECT-NONE.						
CORRECTIVE ACTION-RSC POWER AND SIGNAL CONTROL UNIT WAS REPLACED. IR 960982.						
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	TURNSCAPEAS40-M00089/P4-TCO-03-930 COMPOSITE-J FACT 1 RECEIVER NO. 1	9301 850709	14	YES NO	YES NO	890556
FAILURE MODE-ERRATIC OPERATION. THE RSC CUTOFF OUTPUT INDICATED RECEIPT OF SOME SIGNALS AT SECO AND VECO. AN 80 PER CENT STEP INCREASE WAS NOTED AT SECO AND THE MEASUREMENT WENT GREATER THAN 100 PERCENT AT VECO. NO RSC SYSTEM SIGNALS WERE TRANSMITTED. POST TEST INVESTIGATION REVEALED THERE WERE TWO DIODES BURNED-OUT IN THE REC. NO. 1 POWER AND SIGNAL CONTROL UNIT CIRCUITRY.						
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. TWO CUTOFF INDICATIONS WERE OBSERVED, HOWEVER NO RSC SYSTEM SIGNALS WERE TRANSMITTED.						
VEHICLE EFFECT-NONE.						
CORRECTIVE ACTION-THE POWER AND SIGNAL CONTROL UNIT WAS REPLACED.						
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	NZ-19-18-130-F POWERANDSIGNALCONTROLUNIT,CIRCUITS 27-36238-803 CARD	FAR 2990 850215	FACTORY	NO	NO	894128
FAILURE MODE-FAIL DURING OPERATION. THE POWER AND SIGNAL CONTROL UNIT WAS REJECTED WHEN MANUAL FUEL CUTOFF MONITOR SIGNALS WERE FOUND INTERCHANGED. WHEN WPCO WAS SENT FROM RECEIVER 1, THE CONSOLE LIGHT CAME ON FOR RECEIVER 2, AND VICE VERSA. THE FAILURE WAS CAUSED BY MISWIRING TERMINAL BOARD 27-36247.						
CORRECTIVE ACTION-CIC 47089, EOP 383.18.2 AND EOP 383.18.3 MODIFY TEST 3102 SO THAT THIS WIRING DISCREPANCY COULD BE DETECTED DURING TEST.						

GENERAL DYNAMICS
CONVAIR DIVISION

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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRJ OTH	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	GDA-AP263-002/E1-801-00-111 FUEL CUTOFF ENABLE ELECTRICAL PLUS	FLIGHT	111F 841222	E1 302.18	YES NO		092101
FAILURE MODE-SHORT (ELECT). A SHORT BETWEEN PINS E OR F AND PINS P OR C IS INDICATED ON FUEL CUTOFF ENABLE PLUS P1.							
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. THE SYSTEM INDICATED THAT A SUSTAINER CUTOFF SIGNAL WAS RECEIVED BY THE RANGE SAFETY COMMAND SYSTEM AT THE TIME OF SECO. NO SUCH SIGNAL WAS TRANSMITTED BY THE GROUND SYSTEM.							
VEHICLE EFFECT-NONE.							
CORRECTIVE ACTION-NONE. IT WAS CONCLUDED THAT THIS ANOMOLY WAS PECULIAR TO MISSILE 111F.							
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	SLV-A9-18-128-F POWER AND SIGNAL CONTROL UNIT, DIO 27-36238-803 DE	FAR	841029	FACTORY	YES NO		094124
FAILURE MODE-ELECTRICAL OPEN. THE POWER AND SIGNAL CONTROL UNIT FAILED WHEN NO CONTINUITY WAS OBSERVED BETWEEN PINS D AND 5 ON CONNECTOR J-3. DIODE CR-18 WAS FOUND OPEN CIRCUITED. DEFORMATION OF THE DIODE WAS CAUSED BY HEAT RESULTING FROM EXCESSIVE FORWARD CURRENT. THE SOURCE OF THE EXCESSIVE CURRENT COULD NOT BE DETERMINED.							
CORRECTIVE ACTION-SINCE THE SOURCE OF THE EXCESSIVE CURRENT COULD NOT BE IDENTIFIED, THERE WAS NO CORRECTIVE ACTION							
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-A9-18-121-F SWITCH, CHANGEOVER-BEARINGS	FAR	840802	FACTORY	YES NO		093919
FAILURE MODE-STRUCTURAL. THE POWER AND SIGNAL CONTROL UNIT WOULD NOT SWITCH TO EXTERNAL. FAILURE WAS CAUSED BY A BROKEN BEARING IN POWER CHANGEOVER SWITCH 8-2, P/N 7-01722-3. THE BURNT WIRES IN SWITCHES 8-1 AND 8-2 WERE A RESULT OF 8-2 NOT SWITCHING AND REPEATED SIGNALS BEING APPLIED. THE CAUSE FOR THE BROKEN BEARING WAS NOT DETERMINED.							
CORRECTIVE ACTION-UNKNOWN.							
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-99-18-113-F ENABLE UNIT, RELAY	FAR	840414	FACTORY	YES NO		094499
FAILURE MODE-FAIL DURING OPERATION. THIS RELAY WHICH IS PART OF FUEL-CUTOFF ENABLE UNIT FAILED DURING TESTING OF MEET ASSEMBLY HARDWARE. THE REPORTED FAILURE WAS NOT CONFIRMED. THE PROBABLE CAUSE OF FAILURE WAS A TEST SET MALFUNCTION OR AN ERRONEOUS TESTING PROCEDURE.							
CORRECTIVE ACTION-SINCE THE FAILURE WAS NOT CONFIRMED, THERE WAS NO CORRECTIVE ACTION.							

GENERAL DYNAMICS
CONVAIR DIVISION

15 JUN 1969

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTH	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-99-18-118-F ARM AND ENABLE UNIT, RELAY	FAR 27-32319-1	840306	FACTORY	YES NO		093916
FAILURE MODE-STRUCTURAL. THE ARM-AND-ENABLE UNIT FAILED WHEN RATTILING WAS HEARD COMING FROM INSIDE OF ONE OF THREE RELAYS. ANALYSIS SHOWED THAT THE RATTILING WAS CAUSED BY A MOVABLE PLATE INSIDE RELAY K-3. THE RATTILING WAS IMMERSED IN THE RELAYS DESIGN, AND DID NOT HAMPER RELAY OPERATION.							
CORRECTIVE ACTION-NONE.							
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	SLV-49-18-108-F POWER AND SIGNAL CONTROL UNIT, CON NECTOR	FAR 27-36236-803	840326	FACTORY	YES NO		093921
FAILURE MODE-ELECTRICAL SHORT. THE POWER AND SIGNAL CONTROL UNIT FAILED DURING A TEST RUN WHEN THE AUTOMATIC AND MANUAL FUEL CUTOFF LIGHTS ILLUMINATED SIMULTANEOUSLY. A WIRING ERROR CAUSED A SHORT CIRCUIT FROM P/N, SMALL LETTER A, TO P/N 2, IN CONNECTOR J-4. WIRE 33 WAS WIRED TO PIN P-2 INSTEAD OF PIN P-7 OF SWITCH B-2.							
CORRECTIVE ACTION-EOP 323.15, REVISION-0, WAS RELEASED 5 MAY 1964. PARAGRAPH 18 WAS ADDED TO PERFORM RESISTANCE MEASUREMENT TESTS FOR MANUAL AND AUTOMATIC FUEL CUTOFF CIRCUITS.							
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-99-18-112-F SWITCH, CHANGEOVER, RELAY	FAR 7-01722-3	840306	FACTORY	YES KINETICS NO M72-4		094480
FAILURE MODE-CONTAMINATION. THE SWITCH FAILED WHEN IT HAD HIGH CONTACT RESISTANCE DURING NEXT ASSEMBLY TESTING. ANALYSIS SHOWED THE CONTACT RESISTANCE OF PIN 1 TO PIN 2 WAS HIGH. THE HIGH CONTACT RESISTANCE IS ATTRIBUTED TO EXPANDED FEMALE CONNECTORS AND HARDENED GREASE ON THE PINS.							
CORRECTIVE ACTION-KINETICS WAS DISCONTINUED THE USE OF GREASE FOR LUBRICATION OF CONTACTS AND WAS INITIATED TIGHTER INSPECTION METHODS.							
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-99-18-113-F SWITCH, CHANGEOVER, RELAY	FAR 7-01722-3	840303	FACTORY	YES KINETICS NO M72-4		094481
FAILURE MODE-CONTAMINATION. THE SWITCH FAILED WHEN IT HAD HIGH CONTACT RESISTANCE DURING NEXT-ASSEMBLY TESTING. ANALYSIS SHOWED THAT CONTACT RESISTANCE OF PIN 4 TO B WAS HIGH. THE FAILURE IS ATTRIBUTED TO HARDENED GREASE ON THE PIN SURFACES.							
CORRECTIVE ACTION-KINETICS WAS DISCONTINUED THE USE OF GREASE FOR LUBRICATION OF CONTACTS AND WAS INITIATED TIGHTER INSPECTION METHODS.							

GENERAL DYNAMICS
CONVAIR DIVISION

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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-99-10-104-P SWITCH, CHANGEOVER, RELAY	FAR 7-01722-3	640113	FACTORY	YES KINETICS NO M172-4	6030823
FAILURE MODE-CONTAMINATION. THE SWITCH FAILED WHEN THE RESISTANCE BETWEEN CONTACTS P-1 AND P-2 WAS FOUND TO BE TOO HIGH. THE FAILURE FAILURE IS ATTRIBUTED TO GAS-EJECTED EPOXY PARTICLES BEING ON THE CONTACTS. A SECOND DISCREPANCY WAS PIN MISALIGNMENT CAUSED BY IMPROPER SOLDERING AND INADEQUATE INSPECTION.						
CORRECTIVE ACTION-VENDOR ASSEMBLY PROCEDURES WERE REVISED, EMPHASIZING CARE TO BE TAKEN DURING SOLDERING OF WIRES TO PINS. GOC RECOMMENDED REPLACING THIS POWER CHANGEOVER SWITCH WITH A P/N M810-1. THIS NEW SWITCH DOES NOT HAVE THE EPOXY CONTAMINATION PROBLEM AND HAS MANY IMPROVEMENTS IN OVERALL CONSTRUCTION. THIS FAR IS STILL OPEN.						
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	69AED03 POWER AND SIGNAL CONTROL UNIT, DIO 27-36236-603 DE	UTP-SLT	631213	60/C	YES INESS NO	8990070
FAILURE MODE-ELECTRICAL SHORT. DURING FUNCTIONAL TEST FOLLOWING SLT ACCELERATION ON THE POWER AND SIGNAL CONTROL UNIT IT (P/N 27-36236-603) AN EXCESSIVE REVERSE CURRENT OCCURRED WHEN 30VDC WAS APPLIED TO PIN AND JIP. INVESTIGATION REVEALED ISOLATION CIRCUIT DIODES (CR7 AND CR8) SHORTED.						
CORRECTIVE ACTION-FAULTY DIODES REPLACED AND TESTING CONTINUED. THE FAILED DIODES WERE DISSECTED AND THE ANODE OF EACH DIODE WAS FOUND TO HAVE A HOLE BURNED THROUGH IT. NO CAUSE COULD BE FOUND. DIODE IS A JAN APPROVED PART. (REF: P/R 1064.1)						
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-99-10-055-F RELAY	FAR 66-73900-348	631107	FACTORY	NO LEACH NO 8223-4882	6030820
FAILURE MODE-FAILED TO OPERATE AT PRESCRIBED TIME. THE RELAY FAILED TEST WHEN IT OPERATED INTERMITTENTLY DURING MECHANICAL ASSEMBLY TESTING. THE REPORTED FAILURE COULD NOT BE CONFIRMED. FAILURE IS ATTRIBUTED TO A MALFUNCTION EXTERNAL TO THE RELAY, EITHER A SOLDER CONNECTION TO THE RELAY OR WITHIN THE TEST SET.						
CORRECTIVE ACTION-SINCE THE REPORTED FAILURE WAS UNCONFIRMED, THERE WAS NO CORRECTIVE ACTION.						
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-99-10-083-P ARM AND ENABLE UNIT, DIODE	FAR 27-36380-1	630828	FACTORY	YES GOC NO	
FAILURE MODE-SHORT (ELECT). THE ARM-AND-ENABLE UNIT FAILED WHEN THE DIODES BETWEEN PINS A AND B OF J-1 WERE SHORT-CIRCUITED. FAILURE WAS CAUSED BY SHORTING DIODES CR-1 AND CR-2 TO GROUND THROUGH THE CALIBRATE BUTTON AND R-104 OF THE DESTRUCTOR SUBSTITUTION TEST UNIT.						

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CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTH	VENDOR NAME VENDOR PART NO
	CORRECTIVE ACTION-A CAUTIONARY NOTE, STATING THAT THE CALIBRATE BUTTON IS TO BE DEPRESSED WITH SWITCH S101A IN THE F-1 POSITION ONLY, WAS INCLUDED IN THE TEST PROCEDURE. THE NOTE ALSO CAUTIONS AGAINST ROTATING SWITCH S101A WHILE THE CALIBRATE BUTTON IS DEPRESSED.					
	RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-49-18-088-F ARMANDENABLEUNIT,DIODE	FAR 27-36319-1	630808	FACTORY NO	NO
	FAILURE MODE-OPEN (ELECT). THE ARM-AND-ENABLE UNIT FAILED WHEN DIODE CR-3 WAS FOUND OPEN. FAILURE ANALYSIS SHOWED THE DIODE WAS SUBJECTED TO EXCESSIVE CURRENT DUE TO THE IMPROPER USE OF THE DESTRUCTOR SUBSTITUTION TEST UNIT.					
	CORRECTIVE ACTION-PROCEDURES WERE CHANGED TO INCORPORATE A NOTE STATING THAT THE CALIBRATE BUTTON IS TO BE DEPRESSED WITH SWITCH S101A ONLY IN THE F-1 POSITION. THE NOTE ALSO CAUTIONS AGAINST ROTATING SWITCH S101A WHILE THE CALIBRATE BUTTON IS DEPRESSED.					
	RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	60A63-0709/01-201-24	FLIGHT	24E 630726	F 101	YES NO
	FAILURE MODE-ERRATIC OPERATION-SPURIOUS VOLTAGE TRANSIENTS ORIGINATING IN OR UPSTREAM OF THE CUTOFF ENABLE UNIT WERE TRANSMITTED TO THE ENGINE RELAY BOX. THE EXACT SOURCE OF THE TRANSIENTS IS NOT KNOWN.					
	SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS-ABNORMAL VOLTAGE TRANSIENTS IN THE RBC SUSTAINER ENGINE CUTOFF CIRCUITRY.					
	VEHICLE EFFECT-PREMATURE SUSTAINER ENGINE CUTOFF.					
	CORRECTIVE ACTION-MORE COMPLETE CHECKOUT OF RBC CIRCUITRY AND CUTOFF ENABLE UNIT.					
	RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-49-18-082-F ARMANDENABLEUNIT,DIODE	FAR 27-36319-3	630823	FACTORY NO	YES NO
	FAILURE MODE-SHORT (ELECT). THE ARM AND ENABLE UNIT FAILED WHEN THE DIODES BETWEEN PINS A AND B OF J-1 WERE SHORT CIRCUITED. THE FAILURE WAS CONFIRMED, AND ATTRIBUTED TO DIODES CR-1 AND CR-2 BEING SHORT-CIRCUITED. THE CAUSE OF THE SHORT CIRCUIT WAS NOT FOUND.					
	CORRECTIVE ACTION-SINCE THE CAUSE OF FAILURE WAS NOT DETERMINED, THERE WAS NO CORRECTIVE ACTION.					
	RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	BP-99-12-072-F POWER AND SIGNAL CONTROL UNIT, DIO 27-36236-001 DE	FAR	630824	FACTORY NO	YES NO
	FAILURE MODE-OUT OF TOLERANCE. THE POWER-AND-SIGNAL CONTROL UNIT FAILED WHEN THE FORWARD VOLTAGE DROP ACROSS DIODE CR-9, WERE, WAS TOO HIGH. FAILURE IS ATTRIBUTED TO LACK OF SOLDER FILLETS ON TWO EDGES OF THE CRYSTAL OF CR-9.					

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GENERAL DYNAMICS
COMNAV DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO	
							003036
CORRECTIVE ACTION-A REQUEST FOR IMPROVED QUALITY CONTROL PROCEDURES AND THREE FOLLOW-UPS WERE SENT TO THE VENDOR TH ERE HAS BEEN NO VENDOR RESPONSE.							
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	SP-99-16-075F SWITCH, CHANGEOVER, RELAY	FAR 7-01722-3	030502	FACTORY	YES KINETICS NO M72-4		003040
FAILURE MODE-ERRATIC OPERATION. THE POWER CHANGEOVER SWITCH FAILED WHEN THERE WAS AN INTERMITTENT CONNECTION BETWEEN N P1 AND P2. THE REPORTED FAILURE WAS NOT CONFIRMED. FAILURE COULD HAVE BEEN CAUSED BY PARTICLES OF CONTAMINATION BE TWEEN THE CONTACT SURFACES, BUT NO SIGNS OF CONTAMINATION WERE FOUND.							
CORRECTIVE ACTION-NO CORRECTIVE ACTION WAS TAKEN BECAUSE THE FAILURE WAS UNCONFIRMED.							
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-90-16-070-F ENABLE UNIT, DIODE	FAR 27-36300-1	030503	WTR	YES NO		000937
FAILURE MODE-SHORT-ELECTRICAL. LOW RESISTANCE-FROM PINS E AND N TO CASE. TERMINAL OF DIODE CR-7 SHORTED TO CASE							
CORRECTIVE ACTION-PRODUCTION AND INSPECTION PERSONNEL SHOWN THE FAILURE AND CAUTIONED TO EXERCISE CARE.							
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	HC-98-16-066-P SWITCH-CHANGEOVER	FAR 27-36236-001	030423	ETR	YES KINETICS NO		000715
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. THE SWITCH WOULD NOT SWITCH FROM INTERNAL TO EXTERNAL. ONE SWITCH WAS IN THE INTERNAL POSITION AND THE OTHER WAS IN THE EXTERNAL POSITION. THE SCREW SHAFT AND BEARING WERE MISALIGNED							
CORRECTIVE ACTION-VENDOR REQUESTED TO IMPROVE COMPONENTS ALIGNMENT.							
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	LOCAL ETR REPORT/P4-4CO-04-130 POWER AND SIGNAL CONTROL UNIT	COMPOSITE-J FACT 830423	1300	14/ETR	YES 80/C NO		
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. RANGE SAFETY COMMAND RECEIVER NO. 3 WOULD NOT SWITCH TO EXTERNAL P OWER. THE CONTACTS WERE STICKING.							
SYSTEM EFFECT-OPERATION DOES NOT START. POWER AND SIGNAL CONTROL UNIT MALFUNCTIONED AND WOULD NOT SWITCH RECEIVER 3 TO EXTERNAL ON COMMAND.							
VEHICLE EFFECT-NONE.							

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CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO	
	CORRECTIVE ACTION-REPLACED POWER AND SIGNAL CONTROL UNIT. (FAR 98-18-068)						993739
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A483-0012/P4-4CO-04-130 POWER AND SIGNAL CONTROL UNIT, NOT OR 7-01722-3	COMPOSITE-J FACT 830425	1300	14	YES KINETICS NO M-172-4		994648
	FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. POWER AND SIGNAL CONTROL UNIT HUNG UP ON INTERNAL IN NO. 1 RECEIVER R CIRCUIT. CAUSED BY FAULTY NO. 1 SWITCH MOTOR. SYSTEM EFFECT-OPERATION TOO LONG. UNABLE TO CHANGEOVER TO EXTERNAL IN NO. 1 RECEIVER CIRCUIT. VEHICLE EFFECT-COMPOSITE DELAYED. CORRECTIVE ACTION-UNKNOWN. (FAR 98-18-068).						996750
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-99-18-082-F SWITCH-CHANGEOVER	FAR 7-01722-3	830417	FACTORY	YES KINETICS NO M-172-4		996750
	FAILURE MODE-OUT OF TOLERANCE. HIGH RESISTANCE BETWEEN PIN 4 AND 5. THE RESISTANCE VARIED WITH PRESSURE OR MOTOR AC TUATION VOLTAGE CORRECTIVE ACTION-INFORMED VENDOR AND REQUESTED TIGHTENING OF G.C. AND TESTING PROCEDURES.						996753
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-99-18-082-F SWITCH-CHANGEOVER	FAR 7-01722-3	830121	FACTORY	YES KINETICS NO M-172-4		996753
	FAILURE MODE-CONTAMINATION-CONTAMINANT FOUND ON PINS AND SOME EVIDENCE OF ARCING. NATURE AND SOURCE OF CONTAMINATION NOT DETERMINED. CORRECTIVE ACTION-INFORMED VENDOR AND REQUESTED TIGHTENING OF GC AND TESTING PROCEDURES.						996750
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-99-18-037-F SWITCH-CHANGEOVER	FAR 27-34236-3	821801	FACTORY	YES KINETICS NO		996750
	FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME- WOULD NOT SWITCH FROM INTERNAL TO EXTERNAL POSITION. THE SWITCH NO FOR M88 OVERHEATED AND ONE BRUSH LEAD WERE BURNED OPEN. CAUSE NOT DETERMINED. CORRECTIVE ACTION-UNKNOWN.						

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GENERAL DYNAMICS
CONTROL DIVISION

DIFFICULTIES REVISION-RANGE SAFETY COMMAND SYSTEM-AMMOHOME

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	DATE TIME DIP	PHI OTH	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-99-18-044-7 ARM AND ENABLE UNIT, CONNECTOR	FAR 27-30319-3	18F 021030	FACTORY	YES NO	60C	992960
FAILURE MODE-SHORT SELECT). THE ARM AND ENABLE UNIT FAILED DURING A FLIGHT CONTROL CHECKOUT WHEN THE UNIT SHORTED P FROM PIN A TO PIN Y. DIODE CR-1 WAS SHORTED. EXAMINATION OF THE WEARABLE MARKERS SHOWED WERE NEARLY 27-019 24-009 CAUSING A LOW RESISTANCE CONDITION. THE WIRE WAS INADEQUATELY LEFT IN THE MARKERS WHEN THE MARKERS WERE REDES IGNED TO TAKE THE DESTRUCT SYSTEM.							
CORRECTIVE ACTION-WERE MARKERS WERE REMOVED BY MAP1206, CIC 41488.							
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-99-18-044-7 FUSE	PNF	1130 020900	14/ETR -0430	NO NO		992957
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. ONLY ONE OF TWO 1.9 AMP FUSES WERE BLOWN DURING RANGE SAFETY COMMA NO DESTRUCT TEST. PROCEDURAL STEPS PERFORMED TOO QUICKLY NOT ALLOWING SUFFICIENT TIME TO BLOW BOTH FUSES. SYSTEM EFFECT-NONE. VEHICLE EFFECT-NONE. CORRECTIVE ACTION-DESTRUCT PORTION OF TEST WAS RETURN SATISFACTORY.							
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	P1-800-83-07 POWER AND SIGNAL CONTROL UNIT, DIO DE	COMPOSITE-B FACT	77 000009	11	YES NO		992934
FAILURE MODE-ELECTRICAL OPEN. FAIL TO OPERATE AT PRESCRIBED TIME. A DIODE FAILED IN THE RSC POWER AND SIGNAL CONTRO L UNIT. DUE TO THIS FAILURE THE RSC NO-2 CIRCUITRY DID NOT BECOME THE MFCO SIGNALS SENT DURING THE COMATOON. SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. THE RSC NO-2 CIRCUITRY DID NOT BECOME THE MFCO SIGNALS SENT DURING THE COM WTDOWN DUE TO A FAILED DIODE IN THE RSC POWER AND SIGNAL CONTROL UNIT. VEHICLE EFFECT-NONE. CORRECTIVE ACTION-REPLACE RSC POWER AND SIGNAL CONTROL UNIT.							
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-99-18-059-7 POWER AND SIGNAL CONTROL UNIT, DIO ST-00204-5 DE	FAR	000003	11	YES NO		992931
FAILURE MODE-OUT OF SPECIFICATION. THE POWER AND SIGNAL CONTROL UNIT FAILED DURING FLIGHT ACCEPTANCE COMPOSITE TEST . DIODE CR-3, INESS, FAILED. THE WEARABLE CURRENT PLUG WAS EXCESSIVE, AND THE DIODE COULD NOT MAINTAIN SUFFICIENT REV ERSE VOLTAGE LEVEL.							
CORRECTIVE ACTION-NO CORRECTIVE ACTION.							

GENERAL DYNAMICS
CONVAIR DIVISION

15 JUN 1968

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTH	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-90-18-0337 FUEL ENABLER, CAPACITOR	FAR 27-34300-1	64E 620727	WTR	YES NO		004060
FAILURE MODE-SHORT (ELECT). THE FUEL-ENABLER UNIT FAILED WHEN PINS A AND B WERE FOUND TO BE SHORT-CIRCUITED DURING A SYSTEM CHECK. THIS WAS CAUSED BY TANTALYTIC CAPACITOR C-1 TOUCHING THE CHASSIS THROUGH A RUPTURE IN ITS INSULATION WRAPPING.							
CORRECTIVE ACTION-EDP 325.91 WAS REVISED TO INCLUDE TESTS WHICH WILL PREVENT RECURRENCE OF THE SHORT CIRCUIT CONDITION.							
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A462-0071/P2-401-00-145 POWER AND SIGNAL CONTROL UNIT	COUNTDOWN	145D 620720	32 -12000	YES NO		004114
FAILURE MODE-FAIL DURING OPERATION. A 1/16 AMP FUSE WAS FOUND BLOWN INDICATING A STRAY CURRENT. SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. VEHICLE EFFECT-COUNTDOWN ABORTED AND RESCHEDULED.							
CORRECTIVE ACTION-POST TEST CHECKS WERE RUN. NO IMPROPER DISCRETES WERE MONITORED. NO FURTHER CORRECTIVE ACTION WAS TAKEN.							
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-90-18-0327 ENABLE UNIT, DIODE	FAR 27-34300-1	67E 620818	WTR	YES NO		003603
FAILURE MODE-CONTAMINATION. THE FUEL CUTOFF ENABLE UNIT FAILED WHEN P ON CONNECTOR J1 GROUNDED TO THE CHASSIS. METAL CHIPS AROUND THE BODY OF DIODE C96 LODGED BETWEEN THE INSULATORS AND GROUNDED THE CATHODE OF C96 TO THE CHASSIS.							
CORRECTIVE ACTION-EDP 325.91 WAS REVISED TO INCLUDE TESTS WHICH WILL PREVENT RECURRENCE OF THE SHORT CIRCUIT CONDITION.							
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A-90-18-0317 FAR 27-34300-001	1220 620612	FACTORY	YES NO			000674
FAILURE MODE-OUT OF TOLERANCE. THE 80 PCT HUMIDITY INDICATOR WOULD NOT INDICATE A SAFE CONDITION. THE INDICATOR ONE CLED OK.							
CORRECTIVE ACTION-PURGING TECHNIQUES WERE IMPROVED.							

GENERAL DYNAMICS
CONVAIR DIVISION

18 JUN 1966

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	STIC TIME DIF	PRI OIM	VENDOR NAME VENDOR PART NO
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	MG-99-18-031-1 RELAY	FAR 27-36277-1	620501	FACTORY	YCR NO	899407
FAILURE MODE-FAIL DURING OPERATION. THE DESTRUCT DELAY UNIT WAS REJECTED DURING MANUFACTURING TESTING BECAUSE THE UNIT WOULD NOT HOLD IN THE RESET STATE. THE UNIT WAS IN THE ENABLED STATE AT ALL TIMES. THE FAILURE WAS CAUSED BY A DEFECTIVE RELAY. R-2, P/N 66-73900-095.						
CORRECTIVE ACTION-THIS ITEM WILL BE KEPT UNDER SURVEILLANCE.						
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	ARI41-U-3-14/FC-8CO-03-014	COMPOSITE-FACTORY	14F 611109	NO NO		890117
FAILURE MODE-FAIL DURING OPERATION-ENGINE CUTOFF SIGNALS WERE NOT RECEIVED-NUMEROUS RETESTS WERE ACCOMPLISHED AND THE PROBLEM DID NOT REPEAT UNTIL THE FOURTH COMPOSITE TEST. INVESTIGATION REVEALED THAT THE MODULATION TONE CHANNEL NO. 5 IN THE AGE WAS INTERMITTENT.						
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS.						
VEHICLE EFFECT-COMPOSITE DELAYED. POST-COMPOSITE TESTING REQUIRED TO DEMONSTRATE SATISFACTORY OPERATION.						
CORRECTIVE ACTION-THE AGE PANEL WAS REPAIRED.						
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	AE61-0269/FC-9CO-02-040	COMPOSITE-FACTORY	40E 610803	NO NO		899407
FAILURE MODE-FAIL DURING OPERATION. TWO MANUAL FUEL CUTOFFS WERE OBSERVED WHEN ONE WAS EXPECTED. A FAULTY TONE CHANNEL WAS FOUND IN THE MODULATION DRAMER.						
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. TWO MANUAL FUEL CUTOFF SIGNALS RECEIVED IN PLACE OF ONE.						
VEHICLE EFFECT-COMPOSITE RESCHEDULED- COMPOSITE RE-RUN.						
CORRECTIVE ACTION-THE DRAMER WAS REPLACED.						
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	98-18-023 POWER AND SIGNAL CONTROL UNIT, DIO 27-36236-801 DE	FAR	900 610103	ETR NO	YES NO	
FAILURE MODE-SHORT-ELECTRICAL. DURING SYSTEM C/O THE POWER AND SIGNAL CONTROL UNIT FAILED TO BLOCK AN ENGINE CUTOFF SIGNAL INITIATED BY THE GUIDANCE SYSTEM. DIODES CR8 AND CR9 WERE SHORTED. BUT, NO FAILURE CAUSING DEFECTS WERE FOUND. IT WAS CONCLUDED THAT ABNORMAL VOLTAGE TRANSIENTS FROM AN EXTERNAL SOURCE CAUSED THE FAILURE.						
CORRECTIVE ACTION-SINCE CAUSE OF FAILURE IS UNKNOWN, NO CORRECTIVE ACTION CAN BE TAKEN. GOC WILL MAINTAIN SURVEILLANCE						

GENERAL DYNAMICS
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-41RBORANE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PR1 OTH	VENDOR NAME VENDOR PART NO
NCL						
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	98-18-285 POWER AND SIGNAL CONTROL UNIT, DIO 27-30E39-001 DE	PAR DIO 27-30E39-001	67D 90111A	CTR	YES NO	
	FAILURE MODE-SHORT-ELECTRICAL. POWER AND SIGNAL CONTROL UNIT WAS INOPERATIVE DURING SYSTEM CHECKOUT. DIOCE CH5 WAS SHORTED AND JIC WAS OPEN. HOWEVER, NO FAILURE CREATING DEFECTS WERE FOUND. IT WAS CONCLUDED THAT ABNORMAL VOLTAGE TRA- NIENTS FROM AN EXTERNAL SOURCE CAUSED THE FAILURE.					
	CORRECTIVE ACTION-SINCE CAUSE OF FAILURE IS UNKNOWN, NO CORRECTIVE ACTION CAN BE TAKEN. SSC WILL MAINTAIN DUNAGELLA NCL.					
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	AA00-00049/P4-400-01-07 POWER AND SIGNAL CONTROL UNIT, DIO DE	COMPOSITE-B FACT DIO 27-30E39-001	67D 90111A	CTR	YES NO	
	FAILURE MODE-FAIL DURING OPERATION. TWO DIOCE'S FAILED IN RSC POWER AND SIGNAL CONTROL UNIT DURING FACTORY COMPOSITE TESTING.					
	SYSTEM EFFECT-ERRATIC OPERATION. ERRONEOUS SIGNALS SEEN ON RSC TELEMETRY DATA.					
	VEHICLE EFFECT-NONE.					
	CORRECTIVE ACTION-REPLACED POWER AND SIGNAL CONTROL UNIT.					
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	AA00-00049/P4-400-01-07 POWER AND SIGNAL CONTROL UNIT, CIR CULT BOARD-DIOCE	COMPOSITE-B FACT DIO 27-30E39-001	67D 90111A	CTR	YES NO	
	FAILURE MODE-FAIL DURING OPERATION. DEFECTIVE ISOLATION CIRCUITRY IN POWER AND SIGNAL CONTROL UNIT.					
	SYSTEM EFFECT-IMPROPER DISCRETE SIGNAL. AN IMPROPER SIGNAL OF 20 SECONDS DURATION AFTER SUSPENSION CUTOFF WAS EFFECT ED WAS NOTED ON TLM MEASUREMENT DIO (RSC CUTOFF OUTPUT).					
	VEHICLE EFFECT-NONE.					
	CORRECTIVE ACTION-POWER AND SIGNAL CONTROL UNIT REPLACED.					
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	AA00-00049/P4-401-00-30 POWER AND SIGNAL CONTROL UNIT	PRF	90D 900781	CTR	YES NO	
	FAILURE MODE-OUT OF EXPECTED TEST VALUE. RSC SYSTEM RF INPUT/ACC LEVEL WAS APPROXIMATELY 300 MICROVOLTS THROUGHOUT TEST. LEVEL OF APPROXIMATELY 1000 MICROVOLTS EXPECTED DURING PRF. THIS CONDITION ALSO EVIDENT DURING FACT P4-400-01- NO.					
	SYSTEM EFFECT-NONE.					

GENERAL DYNAMICS
CONVAIR DIVISION

15 JUN 1966

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	TYPE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO	
	VEHICLE EFFECT-NONE. TEST COMPLETED WITHOUT INCIDENT.						086443
	CORRECTIVE ACTION-UNKNOWN.						
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	AE8D-03E2/P2-403-00-30 FUSE	COUNTDOWN	563 603520	12 -8400	YES NO		090300
	FAILURE MODE-ELECTRICAL OPEN. A 50 MA FUSE WAS FOUND BLOWN AT REQ. 37 OF THE RSC TEST.						
	SYSTEM EFFECT-OPERATION STOPS PREMATURELY.						
	VEHICLE EFFECT-COUNTDOWN DELAYED. NO HOLD.						
	CORRECTIVE ACTION-RSC TEST RERUN FROM REQ. 8 WITH SATISFACTORY RESULTS.						
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A24-27-4850/C-400-D1-50	COMPOSITE-FACTORY	500 600106	FACTORY	NO		090123
	FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. DURING THE SECOND PROGRAMMED COMMAND SEQUENCE, DESTRUCT, WPCO, AND AFCD DID NOT OCCUR AS SPECIFIED. INVESTIGATION REVEALED AN INTERMITTENT MODULATOR PAPER IN THE CHECKOUT DET.						
	SYSTEM EFFECT-OPERATION DOES NOT START. COMMAND SEQUENCE DID NOT OCCUR AS SPECIFIED BECAUSE OF FAULTY GSE.						
	VEHICLE EFFECT-COMPOSITE DELAYED. POST-COMPOSITE TESTING INDICATED SATISFACTORY OPERATION OF THE RANGE SAFETY COMMAND SYSTEM.						
	CORRECTIVE ACTION-MODULATOR REPLACED.						
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A2C-27-083/P3-401-00-28 TRANSMITTER	FLIGHT	280 501104	13/ETR 274.06	NO		090717
	FAILURE MODE-PREMATURE OPERATION. AN ELECTRICAL SHORT IN THE AIRBORNE IMPACT PREDICTOR SYSTEM AT 84.9 SECONDS RESULTED IN THE LOSS OF OPERATION OF THE IMPACT PREDICTOR SYSTEM FOR THE REMAINDER OF THE FLIGHT AND CONSEQUENTLY, FAILURE OF THE DOWNRANGE STATION TO ACQUIRE LOCK. AS A RESULT, A RANGE SAFETY COMMAND WAS SENT TO TERMINATE POWERED FLIGHT.						
	SYSTEM EFFECT-OPERATION STOPS PREMATURELY. THE POWERED FLIGHT WAS PREMATURELY TERMINATED AT 274.06 SECONDS WHEN A 6 POUND CUTOFF COMMAND WAS SENT SHUTTING DOWN THE SUSTAINER AND VERNIER ENGINES.						
	VEHICLE EFFECT-PREMATURE PROPULSION CUTOFF. AS A RESULT, THE PAYLOAD IMPACT POINT WAS BETWEEN 250 AND 303 MILES SHORT OF PLANNED RANGE.						
	CORRECTIVE ACTION-NONE.						

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GENERAL DYNAMICS
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM	TEST/REPORT NUMBER	DIP DATA SOURCE	VEHICLE	SITE	PRI	VENDOR NAME
SUB-SYSTEM	FAILED COMPONENT NAME	PART NUMBER	DATE	TIME	OTH	VENDOR PART NO
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	A2M-27-315/FC-4CO-01-20 SWITCH	COMPOSITE-FACTORY	28D 590610	FACTORY	NO NO	
<p>FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. NO MANUAL FUEL CUTOFF OR DESTRUCT SIGNAL OCCURRED WHEN ANTENNA NO. 1 WAS PROGRAMMED. IRREGULARITY CAUSED BY A SWITCH MALFUNCTION IN THE MODULATION DRAWER OF THE TEST EQUIPMENT.</p> <p>SYSTEM EFFECT-OPERATION DOES NOT START, BECAUSE OF A SWITCH MALFUNCTION IN THE MODULATION DRAWER OF THE TEST EQUIPMENT, NO MANUAL FUEL CUTOFF OR DESTRUCT SIGNAL OCCURRED WHEN ANTENNA NO.1 WAS PROGRAMMED.</p> <p>VEHICLE EFFECT-COMPOSITE RESCHEDULED. RE-RUN OF COMPOSITE REQUIRED.</p> <p>CORRECTIVE ACTION-SWITCH REPAIRED.</p>						
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	98-14-006 POWER CHANGEOVER SWITCH	FAR 7-36000-813	5D 590600	ETR	YES NO	60/C
<p>FAILURE MODE-SHORT-A DOLEND COIL LEAD IN THE POWER CHANGEOVER SWITCH WAS ROUTED TOO CLOSE TO THE MOVABLE PORTION OF THE SWITCH DETENT. THE WIRE CAUGHT IN THE DETENT WHERE IT WAS SQUEEZED UNTIL THE WIRE SHORTED THROUGH THE INSULATION TO THE SWITCH FRAME.</p> <p>CORRECTIVE ACTION-CONVAIR QUALITY CONTROL WILL EXERCISE SPECIAL CAUTION IN THE INSPECTION OF WIRE DRESS, WHERE WIRING IS ROUTED NEAR MOVING PARTS. THIS SWITCH IS NO LONGER MANUFACTURED. A POWER CHANGEOVER SWITCH OF ENTIRELY DIFFERENT DESIGN IS BEING USED FROM APPROXIMATELY 100 ON.</p>						
RANGE SAFETY COMMAND-A/B POWER/SIGNAL CONT UNIT	EM-690112-07-02 BEACON BATTERY	CAPTIVE	2A 571003	1A	NO NO	
<p>FAILURE MODE-OUT OF EXPECTED TEST VALUE. BEACON BATTERY WAS BELOW MINIMUM TEMPERATURE.</p> <p>SYSTEM EFFECT-OPERATION DOES NOT START, AT THE TIME OF TRANSITION FROM EXTERNAL TO INTERNAL POWER THE NO. 2 RANGE SAFETY RECEIVER FAILED TO GO INTERNAL DUE TO THE LOW TEMPERATURE.</p> <p>VEHICLE EFFECT-NONE.</p> <p>CORRECTIVE ACTION-BATTERIES WERE INSTALLED ON THE MOD COOLING DUCT FOR THIS TEST TO DETERMINE THEIR ADEQUACY TO MAINTAIN ACCEPTABLE BATTERY TEMPERATURES. THE BATTERY TEMPERATURES DROPPED BELOW MINIMUM, INDICATING THAT THE BATTERIES ARE NOT AS EFFECTIVE AS THE ELECTROTHERM BLANKET HEATER USED IN OTHER TESTS.</p>						
RANGE SAFETY COMMAND-A/B ANTENNA COUPLER-RECEIVER	W-49-16-036F COAX-CONNECTOR, ELECT	FAR 99-04310-005	1160 430317	FACTORY	YES NO	
<p>FAILURE MODE-STRUCTURAL. THE COAXIAL CABLES PULLED LOOSE FROM PLUG, 48386A/U. EXCESSIVE TORQUE FORCED THE SHIELDED STRANDS AGAINST THE COAXIAL SUPPORT RING CAUSING SOME OF THE STRANDS TO FAIL.</p>						

GENERAL DYNAMICS
CORPORATION

DIFFICULTIES REVIEW-RATING SAFETY COMMAND 819723-A190046

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF TIME DIF	DATE TIME DIF	PRI OTM	VENDOR NAME VENDOR PART NO
CORRECTIVE ACTION-THE FOLLOWING IS BEING DONE TO ELIMINATE CABLE CONNECTORS FROM BEING TORQUED TOO HIGH. 1. TORQUE VALVE IN WPS 25.19.43 IS ADJUSTED TO READ 48 INCH-POUNDS PLUS 5 POUNDS, MINUS ZERO POUNDS. 2. THE REAR OF THE CORRECT OR-CABLE ASSEMBLY IS TO BE POTTED WITH A NYLON MANUFACTURING COMPANY MATERIAL.						
RANGE SAFETY COMMAND-A/V ANTENNA, COUPLER, RECEIVER	P4-7CD-02-3302 RECEIVER	COMPOSITE-B FACT	3302 640223	ETRI4	YES NO	
FAILURE MODE-DURING THE RBC TESTS THE CHANNEL 3 MONITOR SIGNAL WAS NOT RECEIVED. FAILURE WAS DETERMINED TO BE IN RE CEIVER NUMBER 2.						
SYSTEM EFFECT-IMPROPER DISCRETE SIGNAL.						
VEHICLE EFFECT-TEST DELAY.						
CORRECTIVE ACTION-RECEIVER NUMBER 2 WAS REPLACED.						
RANGE SAFETY COMMAND-A/V ANTENNA, COUPLER, RECEIVER	574-3-00-35	FLIGHT	73D 640219	ANREB-3	NO NO	
FAILURE MODE-THERE WERE SEVERAL PERIODS OF LOSS OF LOCK IN THE GERTS TRACKING SYSTEM APPARENTLY DUE TO A MECHANICAL FAILURE OF THE WAVEGUIDE BETWEEN THE GUIDANCE PULSE DUPLEXER AND ANTENNA.						
SYSTEM EFFECT-ERRATIC OPERATION.						
VEHICLE EFFECT-NONE.						
CORRECTIVE ACTION-OPEN-ACTION GROUP IS THE 0595TH TEST MEMO-WAFB.						
RANGE SAFETY COMMAND-A/V ANTENNA, COUPLER, RECEIVER	SD/CAGAS-001-42/PC-02-02-0000-001 RECEIVER NO. 1	COMPOSITE-FACTORY	3001 640019		NO NO	
FAILURE MODE-FAILED TO OPERATE AT PRECEDESSED TIME. RANGE SAFETY COMMAND NO. 1 RECEIVED FAILED TO INITIATE DESTRUCT COMMAND.						
SYSTEM EFFECT-OPERATION DOESNT START. NO DESTRUCT COMMAND INITIATED.						
VEHICLE EFFECT-COMPOSITE RE-SCORPABLE. POST COMPOSITE TESTING REQUIRED.						
CORRECTIVE ACTION-DELAY 2-35 REPLACED IN POWER DISTRIBUTION CABINET.						

GENERAL DYNAMIC
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLES, RECEIVER	60/CAGUS-001-44/PC-CO-01-0071-15 COMPOSITE-FACTORY RECEIVER	7119 650817	NO NO			
FAILURE MODE-FAILURE TO CEASE OPERATION AT PRESCRIBED TIME - TELEMETRY MEASUREMENT DSX (DESTRUCT OUTPUT) INDICATED THE DESTRUCT COMMAND FROM RECEIVER NO.1 WAS REMOVED 7 SECONDS PRIOR TO REMOVAL FROM RECEIVER NO.2 WHEN SIMULTANEOUS REMOVAL IS EXPECTED. PROBLEM DUE TO A TEST INSTRUCTION PROBLEM.						
SYSTEM EFFECT-OPERATION STOPS PREMATURELY.						
VEHICLE EFFECT-COMPOSITE RE-SCHEDULED - POST - COMPOSITE TESTING REQUIRED.						
CORRECTIVE ACTION-CORRECTED TESTING INSTRUCTION SEQUENCES.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLES, RECEIVER	60/CAGUS-001-30/PC-CO-01-0071-019 COMPOSITE-FACTORY RECEIVER	7119 650604	NO NO			
FAILURE MODE-OUT OF TOLERANCE- RSC RECEIVERS, RELAY - DELAY PICKUP TIMES WERE EXCESSIVE.						
SYSTEM EFFECT-OPERATION TOO LONG.						
VEHICLE EFFECT-COMPOSITE RE-SCHEDULED. POST - COMPOSITE TESTING REQUIRED.						
CORRECTIVE ACTION-MODULATION GENERATOR (AGE) HAD TO BE REPLACED.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLES, RECEIVER	WSE-303 RECEIVER	COUNTDOWN	106-F 650107	6 NO	NO NO	
FAILURE MODE-OUT OF SPECIFICATION. LOW SIGNAL STRENGTH AT RSC RECEIVER NO. 2 DURING THE TEST.						
SYSTEM EFFECT-OPERATION TOO LOW.						
VEHICLE EFFECT-COUNTDOWN ABORTED.						
CORRECTIVE ACTION-UNKNOWN. SYSTEM TESTS OF THE RECEIVERS AFTER THE TEST INDICATED THAT SYSTEM OPERATION WAS SATISFACTORY.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLES, RECEIVER	FTAB501/PS-4CO-03-200 RECEIVER	COMPOSITE-B FACT 27-31371	280D 641030	12 NO	YES NO	YES ADS19600-1
FAILURE MODE-ERRATIC OPERATION. ERRATIC SIGNAL STRENGTH CHANGES WERE EXHIBITED THROUGHOUT THE TEST. MAXIMUM DECREASES IN SIGNAL STRENGTH WERE APPROXIMATELY 90 TO 95 PERCENT ISM ON TLM DATA. DECREASES LASTED FOR VARYING PERIODS OF TIME RANGING FROM 2 TO 10 SECONDS.						
SYSTEM EFFECT-LOSS OF REDUNDANCY.						
VEHICLE EFFECT-NONE.						

GENERAL DYNAMICS
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTH	VEHICLE NAME VEHICLE PART NO
CORRECTIVE ACTION-TESTING PERFORMED TO DETERMINE IF PERSONNEL MOVEMENTS ON TOWER CAUSED THE PROBLEM. NO CORRELATION COULD BE ESTABLISHED. RECEIVER NO 1 THEN REPLACED, AND NO FURTHER FLUCTUATIONS OBSERVED.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A3-4MO-01-300 RECEIVER	COMPOSITE-PRO/DPL	300D 841021	A-3	YES NO	
FAILURE WIDE-OUT OF TOLERANCE RSC RECEIVER NO. 1 A.S.C. LOW.						
SYSTEM EFFECT-OPERATION TOO LOW.						
VEHICLE EFFECT-NONE.						
CORRECTIVE ACTION-REPLACED RECEIVER.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	CT-98-18-012 COUPLER, RING	PAR 7-36044-3	1460 840923	ETR	YES NO	
FAILURE MODE-SHORT-ELECTRICAL. THE UNIT FAILED WHEN IT HAD INTERMITTENT HIGH ATTENUATION BETWEEN TERMINALS. THE REPORTED FAILURE WAS NOT CONFIRMED. HOWEVER, WATER IN THE COUPLER COULD HAVE CAUSED THE FAILURE. THE CAUSE OF WATER BEING INSIDE THE CONNECTOR WAS NOT DETERMINED.						
CORRECTIVE ACTION-IT WAS RECOMMENDED TO THE SLV PROJECT THAT A STUDY BE MADE TO DETERMINE THE FEASIBILITY OF USING SHIELDING-FIT SLEEVING ON RING COUPLERS AROUND CABLE CONNECTORS AND RING COUPLER JACKS.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	60A-AP264-042/D1-801-00-36	FLIGHT	38F 840631	D1 209	NO NO	
FAILURE MODE-FAILURE DURING OPERATION. DUE TO ERRONEOUSLY TRACKING A SIDE LOBE OF THE VEHICLE TRACK BEACON RECEIVED SIGNAL. THE GROUND RSC SYSTEM PRESENTED DATA WHICH INDICATED (ERRONEOUSLY) A LARGE AZIMUTH ERROR.						
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. DUE TO THE APPARENT AZIMUTH ERROR GROUND RSC GENERATED THE SUSTAINER ONLY C/O AT 298.7 SECONDS AND ALL ENGINES CUTOFF SIGNAL AT 303.8 SECONDS. BOTH SIGNALS WERE PRIOR TO NORMAL GUIDANCE-GENERATED TIMES.						
VEHICLE EFFECT-PREATURE PROPULSION CUTOFF. THE VEHICLE IMPACTED 52 NM SHORT OF THE PLANNED IMPACT POINT. PLANNED TA DE FRAGMENTATION WAS PRECLUDED BY THE AECO SIGNAL.						
CORRECTIVE ACTION-PROCEDURAL CHANGES TO PREVENT SIDE LOBE TRACKING BY MARKING TRACK SYSTEM LOOK FOR MAIN LOBE AT 300 SECONDS. ADDITIONAL INSTRUMENTATION ALSO PLANNED.						

13 JUN 1986

GENERAL DYNAMICS
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	LV-98-18-124-F COUPLER, RING	FAR 7-36044-3	840824	FACTORY	YES	GOC NO	898126
FAILURE MODE-ELECTRICAL OPEN. THE UNIT FAILED WHEN THE VOLTAGE STANDING WAVE RATIO WAS TOO HIGH ON TERMINALS 13, 14 AND 16. A BROKEN SOLDER CONNECTION AROUND THE EYELET ON TERMINAL 13 WHICH IS ATTRIBUTED TO EXCESSIVE PRESSURE DURING ASSEMBLY WAS THE CAUSE OF FAILURE.							
CORRECTIVE ACTION-RESIDENT PLANNING OPERATIONS 7-36044-B, CHANGE L-OR, REQUIRES A NEW FIXTURE BE USED IN WELDING THE BASEPLATE OF THE RING COUPLER TO THE RING COUPLER BODY. THIS NEW FIXTURE REDUCES STRESSED INDUCED INSIDE THE RING COUPLER DURING ASSEMBLY AND MISSILE MOUNTING.							
RANGE SAFETY COMMAND-A/D ANTENNA, COUPLER, RECEIVER	FTAB481/P2-MCO-01-185 RECEIVER	COMPOSITE-B FACT 27-81828-917	195D 840818	12	NO	AD319600-2 NO	897692
FAILURE MODE-ERRATIC OPERATION. BY INPUT/ACC FOR RANGE SAFETY COMMAND RECEIVER 1 WAS ERRATIC.							
SYSTEM EFFECT-LOSS OF REDUNDANCY.							
VEHICLE EFFECT-NONE.							
CORRECTIVE ACTION-CHANGED RECEIVER 1. SUBSEQUENT TESTS SHOWED PROBLEM TO BE CAUSED BY MULTIPATH.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	LV-98-18-123-C RECEIVER	FAR	840818	ETN	YES	AYCO NO AD319600MR-1	894279
FAILURE MODE-ERRATIC OPERATION. THE RECEIVER FAILED WHEN ITS AUTOMATIC GAIN CONTROL WAS FOUND TO BE ERRATIC. WAIVER TWR 84-81-003 CANCELLED THE FAILURE ANALYSIS.							
CORRECTIVE ACTION-NONE.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	BLV-89-18-123-C RECEIVER	FAR	840813	FACTORY	YES	AYCO NO AD319600MR-311	893187
FAILURE MODE-ERRATIC OPERATION. THE RECEIVER FAILED IN FINAL CHECKOUT WHEN IT DISPLAYED ERRATIC RESPONSE.							
CORRECTIVE ACTION-UNKNOWN. FAILURE NOT CONFIRMED.							

DIFFICULTIES REVIEW-NAMES SAFETY COMMAND SYSTEM-AIRBORNE

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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE	SITE TIME	PRI OTH	VENDOR NAME VENDOR PART NO
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	SLV-99-18-120-F COUPLER, RING	FAR 89-11210-3	840803	FACTORY	YES NO	
<p>FAILURE MODE-STRUCTURAL. THE UNIT FAILED FIRST ELECTRICAL TEST WHEN THE VOLTAGE STANDING WAVE RATIO WAS HIGH. AFTER REPAIR, THE VSWR OF TERMINALS 1, 2 AND 4 WERE HIGH. FAILURE WAS DUE TO CRACKED SOLDER CONNECTIONS ON THE INTERNAL PRINTED CIRCUIT BOARD. CRACKS WERE CAUSED BY STRESSES INDUCED ON THEM BY MISALIGNMENT OF CIRCUIT BOARD SCREW HOLES.</p>						
<p>CORRECTIVE ACTION-TOOLING LIAISON REQUEST 49244 CORRECTS THE ASSEMBLY PROCESS ROUTING FORM IN ORDER TO ALLOW A BETTER ALIGNMENT TOLERANCE. MANUFACTURING AND INSPECTION PERSONNEL WERE INSTRUCTED ON ASSEMBLY AND INSPECTION TECHNIQUES</p>						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	69CE2138 RING COUPLER CIRCUIT BOARD	UTP-SLT 89-36012-3	840322	GD/C	YES NO	GD/C
<p>FAILURE MODE-OPEN (ELECT). DURING X-AXIS VIBRATION-TEMPERATURE -ALTITUDE TEST (SLT LEVEL VIBRATION, TEMPERATURE MINUS 40 DEGREE F, ALTITUDE 1000 MG), THE TEST SPECIMEN EXHIBITED INTERMITTENT OPENS. EXAMINATION REVEALED THAT THE SOLDER JOINT BETWEEN THE CIRCUIT BOARD RIBBON AND THE EYELET WAS CRACKED.</p>						
<p>CORRECTIVE ACTION-NONE. THE UNIT IS A QUALIFIED PART HAVING SUCCESSFULLY COMPLETED THE PAT/PRT REQUIREMENTS OF THE UNIFIED TEST PLAN. THIS FAILURE OCCURRED DURING SLT, THE LEVELS OF WHICH ARE BEYOND THE DESIGN SPECIFICATION REQUIREMENTS. REF. PRR 394.</p>						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	69CE2138 RING COUPLER CIRCUIT BOARD	UTP-PRT 89-36012-3	840509	GD/C	YES NO	GD/C
<p>FAILURE MODE-OPEN (ELECT). DURING VIBRATION-TEMPERATURE-ALTITUDE TEST (PRT LEVEL VIBRATION, TEMPERATURE MINUS 25 DEGREE F, ALTITUDE 1000 MG) THE TEST SPECIMEN EXHIBITED INTERMITTENT OPENS THROUGH CONNECTOR JA. EXAMINATION REVEALED THAT THE SOLDER JOINT BETWEEN THE CIRCUIT BOARD RIBBON AND THE EYELET WAS CRACKED.</p>						
<p>CORRECTIVE ACTION-ECP 7729 CREATED THE DAWN-3 CONFIGURATION WHICH PERMITTED SWAGING THE EYELET TO 80 DEGREES ON THE RIBBON SIDE OF THE CIRCUIT BOARD THUS ALLOWING FOR A BETTER SOLDER FILLET AND STRONGER JOINT. ALSO, SPACERS WERE ADDED BETWEEN CASE HALVES TO PREVENT MOTION DURING VIBRATION. THE -3 PASSED THE PRT TEST SUCCESSFULLY. REF. PRR 278.</p>						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	LV-90-18-117-F RECEIVER	FAR	3500 840430	2-3	YES NO	AVCO A03194000R-3
<p>FAILURE MODE-OUT OF EXPECTED TEST VALUE. TWO RECEIVERS WERE REJECTED WHEN THEY HAD ABNORMALLY HIGH SENSITIVITY. THE HIGH SENSITIVITIES WERE CONFIRMED. HOWEVER THESE DISCREPANCIES ARE NOT FAILURES. RECEIVERS WITH HIGH SENSITIVITIES</p>						

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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTH	VENDOR NAME VENDOR PART NO
WILL NOT AFFECT MISSILE FLIGHT OR THE MISSILE DESTRUCT SYSTEM.						
CORRECTIVE ACTION-SINCE THERE WAS NO FAILURE, THERE WAS NO CORRECTIVE ACTION.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A-AB-10-319-F COUPLER, RING	FAR 99-38012-1	116F 640400	FACTORY	YES NO	
FAILURE MODE-STRUCTURAL. DURING CHECKOUT THE INSERTION LOSS THROUGH TERMINALS J2 AND J1 WAS 9.5 DB BUT SHOULD HAVE BEEN LESS THAN 7.5 DB. THE FAILURE WAS CAUSED BY CRACKED SOLDER CONNECTIONS. THE CRACKS WERE DUE TO STRESSES ON THE TERMINAL EYELETS.						
CORRECTIVE ACTION-1 ECN356478 CHANGES THE RANGE REQUIREMENTS. 2. ECN 356479 ADDS A SPACER.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AGUR3-001-8/FC-CO-01-0011-004	COMPOSITE-FACTORY	139F 640408		NO NO	
FAILURE MODE-FAIL DURING OPERATION. THE LAST DESTRUCT FUNCTION, EXPECTED AT 265 SECONDS DID NOT OCCUR DUE TO A LOOSE PIN IN THE TAYLOR PROGRAMMER.						
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS.						
VEHICLE EFFECT-COMPOSITE RESCHEDULED. A PARTIAL COMPOSITE FIX TEST WAS PERFORMED.						
CORRECTIVE ACTION-THE LOOSE PIN WAS RETIGHTENED.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	60A/RUT64-011/COAPE-401-00-863 RECEIVER	COUNTDOWN 27-81028	263D 640406	12 -12000	YES NO	AD319000-1
FAILURE MODE-FAILURE TO OPERATE AT PRESCRIBED TIME. RECEIVER FAILED TO RESPOND TO SIGNALS FROM RANGE.						
SYSTEM EFFECT-OPERATION DOES NOT START.						
VEHICLE EFFECT-COUNTDOWN DELAYED.						
CORRECTIVE ACTION-RECEIVER REPLACED. COUNTDOWN RECYCLED TO -13000 SECONDS.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	LY-90-10-314-F RECEIVER	FAR	263D 640406	ETR	YES NO	AD319000-1
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. THE UNIT HAD NO OUTPUTS. THE FAILURE WAS CONFIRMED AND THEN LOST. THE FAILURE MAY HAVE BEEN DUE TO A PAPER CAPACITOR IN THE FIXED INTERMEDIATE FREQUENCY AMPLIFIER BECOMING DETUNED.						

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GENERAL DYNAMICS
COMNAV DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO	
	CORRECTIVE ACTION-THE VENDOR IS NOW USING A TORQUE SCREWDRIVER TO ADJUST THE PADDOR CAPACITORS DURING ASSEMBLY OF THE RECEIVERS. THIS TORQUE SCREWDRIVER SHOWS THE RETAINING STRENGTH OF THE SPRINGS, AND WILL DETECT ONE THAT IS TOO WEAK TO HOLD THE SCREW IN PLACE DURING VIBRATION OR SHOCK.						004402
	RANGE SAFETY COMMAND-A/B FT86449/P2-4CO-03-283 ANTENNA, COUPLER, RECEIVER COMPOSITE-J FACT 283D 12 NO A0319000-1 27-81028 NO						007804
	FAILURE MODE-FAIL DURING OPERATION- THE RSC NO. 1 RECEIVER FUSE DID NOT BLOW WHEN DESTRUCT WAS SENT. CAUSE OF FUSE NOT BLOWING WAS THE DESTRUCT SIGNAL DURATION BEING TOO SHORT. SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. VEHICLE EFFECT-COMPOSITE DELAYED. CORRECTIVE ACTION-SEND LONGER DURATION DESTRUCT SIGNAL.						004412
	RANGE SAFETY COMMAND-A/B LV-99-18-103-F ANTENNA, COUPLER, RECEIVER FAR 99-11810-1 FACTORY YES SOC NO						003684
	FAILURE MODE-OUT OF SPEC. IT WAS REPORTED THAT THE POWER SPLIT BETWEEN TERMINALS J-4 TO J-5, AND J-4 TO J-2, WAS 0.96 DB AT 225 MC, WHERE AS SPECIFICATIONS CALL FOR NO MORE THAN 0.7 DB. THE REPORTED FAILURE WAS NOT CONFIRMED. CORRECTIVE ACTION-REVISION-B OF THE RING COUPLER SPEC., DATED 13 OCT. 1984 INCREASES THE DIFFERENCE IN POWER LEVEL MEASURED AT THE OUTPUTS LEADING TO THE TWO ANTENNAS FROM 0.7 DB TO 0.9 DB.						003684
	RANGE SAFETY COMMAND-A/B LV-99-18-103-F ANTENNA, COUPLER, RECEIVER FAR 940504 FACTORY YES ANCO NO A0319000MK1						003684
	FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. THE UNIT FAILED WHEN IT HAD NO OUTPUTS TO AUTOMATIC FUEL CUTOFF. AN ANNUAL FUEL CUTOFF, AND DESTRUCT. THE RECEIVER FAILED BECAUSE THE AMPLIFIER PLUG-IN UNIT WAS MISSING. THE REASON FOR THE PLUG-IN UNIT'S ABSENCE WAS NOT DETERMINED. CORRECTIVE ACTION-SINCE THE REASON FOR THE MISSING PLUG-IN UNIT COULD NOT BE FOUND, THERE WAS NO CORRECTIVE ACTION.						

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GENERAL DYNAMICS
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP TIME	SITE	PRI OTM	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A-99-18-102-F COUPLER, RING	FAR 7-38044-3	640122	FACTORY	YES NO		093920
FAILURE MODE-STRUCTURAL. THE UNIT FAILED DURING PRE-VIBRATION ELECTRICAL TESTING WHEN ISOLATION BETWEEN J-13 AND J-19 WAS 908. ISOLATION SHOULD BE NO LESS THAN 20 DB. A BROKEN SOLDER CONNECTION AROUND THE EYELET ON THE TERMINAL BOX NO WHICH IS ATTRIBUTED TO EXCESSIVE PRESSURE DURING ASSEMBLY WAS THE CAUSE OF FAILURE.							
CORRECTIVE ACTION-RESIDENT PLANNING OPERATIONS 7-38044-3, CHANGE L-02, REQUIRES A NEW FIXTURE BE USED IN WELDING THE BASEPLATE OF THE RING COUPLER TO THE RING COUPLER BODY. THIS NEW FIXTURE REDUCES STRESSES INDUCED INSIDE THE RING COUPLER DURING ASSEMBLY AND MISSILE MOUNTING.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A-99-18-103-F COUPLER, RING	FAR 7-38044-3	640110	FACTORY	YES NO		093922
FAILURE MODE-STRUCTURAL. TWO UNITS FAILED 10 JAN. 1964 WHEN THEY LEAKED AT THE CIRCUMFERENTIAL WELD DURING 20-PSIG GASEOUS NITROGEN PROOF PRESSURE TEST. THE LEAKING IS DUE TO INCORRECT WELDING TECHNIQUES.							
CORRECTIVE ACTION-A REVISED WELDING PROCESS SHEET WAS ADDED TO THE MANUFACTURING SPEC. FOUR WORKERS, P/N 99-31309-9 12, ON THE RESIDENT ORDER WERE CANCELLED. A TOOL THAT CLAMPS THE RING COUPLER TO THE TEST BENCH WHEN PROOF PRESSURE TESTING IS PERFORMED WAS INITIATED IN SHOP ORDER PLANNING, CHANGE LETTER L-02.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	LV-90-18-101-C RECEIVER	FAR	2030 640110	2-3	YES NO	AVCO AD3196000481	093743
FAILURE MODE-OUT OF TOLERANCE. THE UNIT FAILED WHEN THE SENSITIVITY DRIFTED FROM 0.3 TO 1.0 MV.							
CORRECTIVE ACTION-SINCE THERE WAS NO FAILURE ANALYSIS, THERE WAS NO CORRECTIVE ACTION.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AG493-001-8FC-CO-01-0000-002	COMPOSITE-FACTORY	2500 640107		NO NO		090101
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. ONE OF THE DESTRUCT COMMANDS DURING THE COMPOSITE SEQUENCE WAS NOT INITIATED, DUE TO A DEFECTIVE TONE GENERATOR (AGE)							
SYSTEM EFFECT-OPERATION DOES NOT START							
VEHICLE EFFECT-COMPOSITE DELAYED. A PARTIAL RETEST OF THE COMPOSITE WAS PERFORMED.							
CORRECTIVE ACTION-THE TONE GENERATOR WAS REPLACED (AGE).							

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CONVAIR DIVISION

13 JUN 1980

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SIB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	917E TIME DIP	PR1 OTH	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A-89-18-100-F COUPLER, RING	FAR 7-38044-9	631204	FACTORY	YES NO		893742
FAILURE MODE-STRUCTURAL. THE UNIT REPORTEDLY FAILED WHEN THE POWER LOSS VARIED FROM 6 TO 8 DB WHEREAS IT SHOULD BEH O MORE THAN 7 DB AND STABLE. THE LOSS FROM TERMINALS J13 TO J14, AND FROM J14 TO J15 ALSO VARIED FROM 3 DB TO 4 DB W HEN PRESSURE WAS APPLIED TO J14. THE REPORTED FAILURE WAS NOT CONFIRMED BY ANALYSIS.							
CORRECTIVE ACTION-60/C FACTORY PERSONNEL WERE INFORMED OF THE RESULTS OF THE ANALYSIS. SINCE THE CAUSE OF FAILURE W AS NOT DETERMINED, THERE WAS NO CORRECTIVE ACTION.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	60A83-1093/A1-401-00-832 RECEIVER	FLIGHT	232D 631104	A-1 276.41	NO NO		890094
FAILURE MODE-PREATURE OPERATION. ALL ENGINE CUTOFF COMMAND GENERATED BY THE GROUND BASED RANGE SAFETY COMPUTER WIT HOUT APPARENT CAUSE.							
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. THE VEHICLE-BORNE RANGE SAFETY COMMAND SYSTEM OPERATED PROPERLY TO THE REC EIVED SIGNAL.							
VEHICLE EFFECT-PREATURE VERNIER ENGINE CUTOFF. THE VERNIER ENGINE WAS CUTOFF BY THE RSC SYSTEM. IMPACT WAS SHORT.							
CORRECTIVE ACTION-THE PROBLEM WAS DETERMINED TO BE THE RESULT OF A PROGRAMMING OVERSIGHT. NO FURTHER ACTION TAKEN.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	CT-88-18-008-P RECEIVER-CHOKE	FAR	128D 631029	ETR	YES AVCO NO A0319000M1		894183
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. THE RECEIVER FAILED WHEN IT RECEIVED THE MANUAL FUEL CUTOFF SIGNAL . FAILURE WAS CAUSED BY AN UNSOLDERED CHOKE WELDING IN THE BROADBAND CONVERTER, P/N A0319403-1.							
CORRECTIVE ACTION-IT WAS RECOMMENDED TO NASA THAT THE VENDOR BE REQUESTED TO IMPROVE QUALITY CONTROL PROCEDURES TO ASSURE CHOSES ARE NOT INSTALLED UNLESS THEY ARE PROVEN TO BE GOOD.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A-89-18-098-F RECEIVER	FAR 27-38014-9	631029	FACTORY	YES AVCO NO A0319000M1		894183
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. THE RECEIVER FAILED WHEN IT HAD NO OUTPUT. THE INITIAL FAILURE WAS CONFIRMED BY ANALYSIS AND TRACED TO THE FIXED INTERMEDIATE-FREQUENCY AMPLIFIER. BUT THE FAILURE WAS LOST DURING TEST TIME AND COULD NOT BE MADE TO RECUR.							

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13 JUN 1968

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIS DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO
CORRECTIVE ACTION-NO CORRECTIVE ACTION WAS TAKEN AS THE FAILURE WAS LOST BEFORE ANY CAUSE COULD BE LEARNED.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	SLV-89-18-087-F COUPLER, RING	FAR 89-11210-1	831029	FACTORY	YES NO	993740
FAILURE MODE-OUT OF TOLERANCE. THE POWER SPLIT BETWEEN TERMINALS J4 TO J5, AND J4 TO J2, WAS 0.6 DB AT 225 MC, WHEN E AS SPECIFICATIONS CALL FOR NO MORE THAN 0.7 DB POWER SPLIT.						
CORRECTIVE ACTION-60/C FACTORY PERSONNEL WERE INFORMED OF THE RESULTS OF THE ANALYSIS. SINCE THE REPORTED FAILURE W AS NOT CONFIRMED, THERE WAS NO CORRECTIVE ACTION.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	89C2139 RING COUPLER	UTP-PAT 89-34012-1	831029	60/C	YES 60/C NO	993759
FAILURE MODE-OUT OF TOLERANCE. DURING EXAMINATION, THE PRODUCT WIDTH DIMENSION MEASURED 4.479 INCHES. THE MINIMUM A LLOWABLE IS 4.490 INCHES.						
CORRECTIVE ACTION-THE TEST WAS CONTINUED. THE OUT OF TOLERANCE IS NOT CRITICAL AND DOES NOT EFFECT THE ELECTRICAL O PERATION OF THE UNIT. QUALITY CONTROL WAS INFORMED OF THIS DISCREPANCY. REF. FRR 040.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	SP-AS-18-082-F RECEIVER CRYSTAL	FAR	1990 831022	FACTORY	YES AVCO NO	993702
FAILURE MODE-CONTAMINATION. THE RECEIVER FAILED WHEN IT WAS FOUND TO HAVE LOW SENSITIVITY. THE FAILURE IS ATTRIBUTE D TO A BAD CRYSTAL ASSEMBLY IN THE VARIABLE INTERMEDIATE-FREQUENCY PLUG-IN UNIT. THE CRYSTAL ASSEMBLY FAILURE WAS CA USED BY ENTRAPMENT OF A SMALL PARTICLE OF CERAMIC BETWEEN THE CRYSTAL AND ONE OF ITS ADJACENT CONDUCTIVE CONTACTS.						
CORRECTIVE ACTION-THE VENDOR WAS REQUESTED TO REVISE TEST PROCEDURES.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AMS-0008-1990/PC-CO-08A-0008-008 RECEIVER	COMPOSITE-FACTORY 831021	1990 831021	FACTORY	YES NO	993702
FAILURE MODE-FAIL DURING OPERATION- THE RECEIVER NO. 2 RELAY DELAY PICKUP TIMES WERE ERRATIC.						
SYSTEM EFFECT-ERRATIC OPERATION.						
VEHICLE EFFECT-COMPOSITE RESCHEDULED. SYSTEM AND COMPOSITE DETAILING WERE REQUIRED.						

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CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTM	VEHICLE NAME VEHICLE PART NO	
	CORRECTIVE ACTION-THE RECEIVER WAS REMOVED AND REPLACED. THE REPLACEMENT RECEIVER (ALSO) FAILED DURING SYSTEM TESTING DUE TO LOW SENSITIVITY. A THIRD UNIT WAS SUBSEQUENTLY INSTALLED AND FUNCTIONED SATISFACTORILY.						000470
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	SP-25-10-081P ANTENNA	FAR	081021	FACTORY	YES	AYCO NO AD-31000000-1	000701
FAILURE MODE-OUT OF TOLERANCE. THE RECEIVER REPORTEDLY FAILED WHEN THE AUTOMATIC FUEL CUTOFF PICKUP TIME WAS TOO LONG AND THE DESTRUCT PICKUP TIME WAS TOO FAST. THE FAILURE COULD NOT BE CONFIRMED. IT IS CONCLUDED THAT THE FAILURE INDICATION WAS CAUSED BY THE LOOSE CONNECTION ON THE POD 2 ANTENNA CABLE. RPM CORRECTIVE ACTION-NO CORRECTIVE ACTION WAS TAKEN BECAUSE IT WAS CONCLUDED THAT THE FAILURE WAS IN THE ANTENNA CONNECTION AND NOT IN THE RECEIVER. TESTING AND MANUFACTURING PERSONNEL WERE MADE AWARE OF THE POSSIBLE RESULTS OF LOOSE CONNECTIONS.							
	CORRECTIVE ACTION-NO CORRECTIVE ACTION WAS TAKEN BECAUSE IT WAS CONCLUDED THAT THE FAILURE WAS IN THE ANTENNA CONNECTION AND NOT IN THE RECEIVER. TESTING AND MANUFACTURING PERSONNEL WERE MADE AWARE OF THE POSSIBLE RESULTS OF LOOSE CONNECTIONS.						000703
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	SP-25-10-083-P COAR-CONNECTOR	FAR 27-01004-015	081019	FACTORY	YES NO		
FAILURE MODE-STRUCTURAL. DURING CHECKOUT THE US000/P RECEPTACLE WAS FOUND BROKEN LOOSE FROM THE OUTER CABLE. THE FAILURE IS ATTRIBUTED TO CABLE AND RECEPTACLE ACCUMULATIVE TOLERANCE, PERMITTING HANDLING TO BREAK THE HOLDING BRAID STRANDS.							
	CORRECTIVE ACTION-SINCE CONNECTOR REPLACEMENT IS DEPENDENT ON STATE-OF-THE-ART DESIGN IMPROVEMENT OF CONNECTORS, THERE WAS NO CORRECTIVE ACTION.						000800
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	PTAB251/P3-400-00-107	COMPOSITE-J FACT 27-01020	1070 050030	15 -4800	YES NO	AD-31000000	
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. DURING RBC TESTS, AFCC SIGNAL WAS NOT PROPERLY RECEIVED. SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. AFCC SIGNAL NOT PROPERLY RECEIVED. VEHICLE EFFECT-COMPOSITE DELAYED.							
	CORRECTIVE ACTION-REPLACED RBC RECEIVER NO.2. REPORT A403-0039 REFERS TO 18008964 AND FAR SP-08-10-090-P						000800
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	SP-08-10-090-P RECEIVER	FAR	1070 050030	15	YES NO	AYCO AD-31000000-1	
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. THE RECEIVER FAILED WHEN IT DID NOT RECEIVE THE TONE 2 SIGNAL. THE REPORTED FAILURE WAS UNCONFIRMED. HOWEVER EVIDENCE ELIMINATES EVERYTHING BUT THE RECEIVER AS THE CAUSE OF THE PROBLEM.							

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CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTH	VENDOR NAME VENDOR PART NO	
ATED FAILURE.							693700
	CORRECTIVE ACTION-SINCE THE REPORTED FAILURE WAS UNCONFIRMED, THERE WAS NO CORRECTIVE ACTION.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A-99-18-098-F COUPLER, RING	FAR 7-36044-5	630927	FACTORY	YES NO		693619
	FAILURE MODE-STRUCTURAL. THE ISOLATION BETWEEN TERMINALS 14 AND 16 VARIED FROM 23 DB TO 30 DB WHEN SLIGHT PRESSURE WAS APPLIED TO TERMINAL 15. THE FAILURE WAS DUE TO A BROKEN SOLDER CONNECTION TO A TERMINAL BOARD EYELET. THE CONNECTION WAS BROKEN BY EXCESSIVE PRESSURE BEING APPLIED DURING ASSEMBLY.						
	CORRECTIVE ACTION-PLANNING OPERATIONS 7-36044-5, CHANGE L-02, A NEW FIXTURE BE USED IN WELDING THE BASEPLATE OF THE RING COUPLER TO THE RING COUPLER BODY.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	LV-98-18-089-F RECEIVER	FAR	1970 630923	15	YES NO	AWCO AD-31900095-1	693689
	FAILURE MODE-OUT OF TOLERANCE. THE RECEIVER FAILED WHEN THE MANUAL FUEL CUTOFF LIGHT ILLUMINATED ABOVE MAXIMUM ALLOWABLE VOLTAGE. THE FAILURE IS ATTRIBUTED TO A VARIABLE INTERMEDIATE-FREQUENCY PLUG-IN UNIT WITH LOW SENSITIVITY. THE EXACT CAUSE OF LOW SENSITIVITY WAS NOT FOUND.						
	CORRECTIVE ACTION-SINCE THE EXACT CAUSE OF FAILURE WAS NOT FOUND, THERE WAS NO CORRECTIVE ACTION.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	LV-99-18-094-F COUPLER, RING	FAR 7-36044-601	630923	FACTORY	YES NO		693621
	FAILURE MODE-STRUCTURAL. TWO UNITS FAILED WHEN ISOLATION BETWEEN TERMINALS WAS FOUND TO BE UNSTABLE. THE FAILURES WERE CAUSED BY BROKEN SOLDER CONNECTIONS AROUND EYELETS ON TERMINAL BOARDS. THE CONNECTIONS WERE BROKEN BY EXCESSIVE PRESSURE BEING APPLIED DURING ASSEMBLY.						
	CORRECTIVE ACTION-RESIDENT PLANNING OPERATIONS 7-36044-5, CHANGE L-02, REQUIRES A NEW FIXTURE BE USED IN WELDING THE BASEPLATE OF THE RING COUPLER TO THE RING COUPLER BODY.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	LV-A8-18-090-F COUPLER, RING	FAR 7-36044-5	2850 630906	FACTORY	YES NO		
	FAILURE MODE-STRUCTURAL. THE UNIT FAILED WHEN THE VOLTAGE STANDING WAVE RATIO WAS REPORTED TO BE HIGH. FUNCTIONAL TESTING CONFIRMED THE FAILURE. THE UNIT HAD A VSWR OF 1.25 ON TERMINAL 14, AND 1.81 ON TERMINAL 15. A BROKEN SOLDER CONNECTION WAS FOUND ON TERMINAL 15.						

GENERAL DYNAMICS
CONVAIR DIVISION

15 JUN 1986

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM	TEST/REPORT NUMBER	DIP DATA SOURCE	VEHICLE	SITE	PRI	VENDOR NAME
SUB-SYSTEM	FAILED COMPONENT NAME	PART NUMBER	DATE	DIP	OTH	VENDOR PART NO
CONNECTION AROUND THE EYELET ON THE TERMINAL BOARD WHICH IS ATTRIBUTED TO EXCESSIVE PRESSURE APPLIED DURING ASSEMBLY WAS THE CAUSE OF FAILURE.						
CORRECTIVE ACTION-PLANNING 7-38044-S, CHANGE L-08, REQUIRED A NEW FIXTURE BE USED IN WELDING THE BASEPLATE OF THE RING COUPLER TO THE RING COUPLER.						
RANGE SAFETY COMMAND-A/B	AR83-0003-2830/FC-CO-01-0080-001	COMPOSITE-FACTORY	2830	FACTORY	NO	890110
ANTENNA, COUPLER, RECEIVER	RECEIVER		830810		NO	
FAILURE MODE-OUT OF TOLERANCE. THE PROGRAMMED MANUAL AND AUTOMATIC FUEL CUTOFF TONE CHANNEL DELAY TIMES WERE OUT OF TOLERANCE. THIS IRREGULARITY WAS CAUSED BY A FAULTY MODULATION GENERATOR PANEL IN THE AGE.						
SYSTEM EFFECT-OPERATION TOO LONG.						
-VEHICLE EFFECT-COMPOSITE RE-SCHEDULED. POST-COMPOSITE TESTING REQUIRED.						
CORRECTIVE ACTION-REPLACED AGE MODULATION GENERATOR PANEL.						
RANGE SAFETY COMMAND-A/B	SP-A9-18-078-F	PAR	830815	FACTORY	YES	893842
ANTENNA, COUPLER, RECEIVER	RECEIVER				NO	AD319400HKS
FAILURE MODE-ELECTRICAL OPEN. THE RECEIVER FAILED WHEN TELEMETRY DATA SHOWED THE AUTOMATIC GAIN CONTROL TO BE FROM 49 TO 69 PERCENT OF THE INFORMATION BANDWIDTH. THE FAILURE IS ATTRIBUTED TO BROKEN SOLDER JOINTS ON THREE CAPACITOR LEADS IN THE BANDPASS FILTER. ONE JOINT HAD BEEN BARELY TOUCHED WITH SOLDER, AND NONE OF THE JOINTS HAD ENOUGH HEAT APPLIED.						
CORRECTIVE ACTION-THIS RECEIVER WAS MANUFACTURED IN 1980. THE VENDORS SOLDERING TECHNIQUES AND INSPECTION ARE NOW BETTER. THE VENDOR WAS INFORMED OF THE FAILURE.						
RANGE SAFETY COMMAND-A/B	SP-A9-18-078-F	PJR	830815	FACTORY	NO	893843
ANTENNA, COUPLER, RECEIVER	COAX	55-64310-021			YES	
FAILURE MODE-OUT OF TOLERANCE. THE COAXIAL CABLE REPORTEDLY FAILED WHEN THE AUTOMATIC GAIN CONTROL OF THE RSC RECEIVER WAS FROM 49 TO 69 PERCENT OF THE INFORMATION BANDWIDTH. THE REPORTED FAILURE WAS ISOLATED TO THE RSC RECEIVER RA THAN THE COAXIAL CABLE. SEE PAR SP-A9-18-078-F.						
CORRECTIVE ACTION-SINCE THE REPORTED FAILURE WAS NOT CONFIRMED, THERE WAS NO CORRECTIVE ACTION.						

GENERAL DYNAMICS
COMBAT DIVISION

13 JUN 1966

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	DATE TIME DIP	PR1 OTH	VENDOR NAME VENDOR PART NO
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	ABAS-0003-1870/PC-CO-01-0308-005 RECEIVER NO 1 FILTER	COMPOSITE-FACTORY	1280 830608		YES NO	
<p>FAILURE MODE-ELECTRICAL OPEN. RSC RECEIVER NO. 1 AGC MONITORED BY TELEMETRY MEASUREMENT DTV INDICATED AN INPUT OF 3 MICROPOLTS. ALSO, THE PICK-UP TIMES FOR AFCH, WFOB AND THE FIRST DESTRUCTIVE WERE OUT OF TOLERANCE. THIS CONDITION WAS CAUSED BY BROKEN SOLDER JOINTS IN THE RECEIVER BLIND PASS FILTER. THIS WAS FOUND SUBSEQUENT TO THE SECOND COMPOSITE TEST.</p> <p>SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. ALSO IMPROPER ANALOG SIGNAL.</p> <p>VEHICLE EFFECT-COMPOSITE RE-SCHEDULED. SYSTEMS LEVEL AND POST-COMPOSITE TESTING REQUIRED.</p> <p>CORRECTIVE ACTION-REPLACED RSC RECEIVER NO. 1.</p>						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	3P-90-18-080-F RECEIVER	FAR	550522	1-2	YES AYCO NO A0319600042	
<p>FAILURE MODE-FAIL DURING OPERATION. THE RECEIVER FAILED WHEN CHANNEL 5 WOULD NOT DROP OUT. THE REPORTED FAILURE WAS NOT CONFIRMED.</p> <p>CORRECTIVE ACTION-SINCE THE REPORTED FAILURE WAS NOT CONFIRMED, NO CORRECTIVE ACTION CAN BE TAKEN.</p>						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	84-40-03-150 RECEIVER	COMPOSITE-J PACT 87-39014-3	1300 830501	14	YES 60/C NO	
<p>FAILURE MODE-FAIL DURING OPERATION. RECEIVER NO. 2 INDICATED DESTRUCT SIGNAL RECEIVED 77 MILLISECONDS BEFORE RECEIVED NO. 1. A SIMILAR OCCURRENCE WAS OBSERVED ON TEST PE-400-04-130 AND MILLISECOND DELAY.</p> <p>SYSTEM EFFECT-NONE.</p> <p>VEHICLE EFFECT-NONE.</p> <p>CORRECTIVE ACTION-UNKNOWN.</p>						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	ABAS-0003-1970/PC-CO-03-0081-001 RECEIVER	COMPOSITE-FACTORY	197C 830417	7	NO NO	
<p>FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. THE AUTOMATIC FUEL CUTOFF COMMAND AT 7 SECONDS WAS NOT EVIDENT ON THE TELEMETRY RECORDINGS BECAUSE OF AN INTERMITTENT TONE CHANNEL NO. 8 OSCILLATOR IN THE AGE MODULATION GENERATOR.</p> <p>SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS.</p> <p>VEHICLE EFFECT-COMPOSITE RE-SCHEDULED. POST-COMPOSITE TESTING REQUIRED.</p>						

15 JUN 1986

GENERAL DYNAMICS
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO	
CORRECTIVE ACTION-THE OSCILLATOR WAS REPLACED.							090133
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	ME-99-18-06SF RECEIVER, AMPLIFIER, TUBE	FAR 27-38013-1	830418	FACTORY	YES NO		090713
FAILURE MODE-OUT OF TOLERANCE. NO OUTPUT FROM AUDIO AMPLIFIER. CAUSED BY BROKEN TUBE V1 BECAUSE CAPACITOR C3 WAS CEDED TO THE GLASS.							
CORRECTIVE ACTION-PRECAUTIONARY NOTE ADDED TO VISUAL AID 27-38013-3.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	ME-99-18-074-F AMPLIFIER-TUBE, ELECTRONIC	FAR 27-38013-3	830412	FACTORY	YES NO		093839
FAILURE MODE-OUT OF SPEC. THE AUDIO AMPLIFIER FAILED WHEN THE OUTPUT WAS 12 VOLTS AC. THE MINIMUM ALLOWABLE IS 15 V OLTS AC. THE FAILURE IS ATTRIBUTED TO SAELECH TUBE V-4. ALTHOUGH TUBE V-4 WAS WITHIN SPEC WHEN TESTED BY CONVENTIONAL METHODS, IT PROBABLY POSSESSED SOME CHARACTERISTIC THAT MADE IT INCOMPATIBLE WITH THE REMAINDER OF THE CIRCUITRY.							
CORRECTIVE ACTION-SINCE THE EXACT CAUSE OF FAILURE WAS NOT FOUND, NO CORRECTIVE ACTION WAS TAKEN.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AX83-0003-1970/FC-00-08-10821-001 COMPOSITE-FACTORY RECEIVER	1970 830412			NO NO		090132
FAILURE MODE-OUT OF TOLERANCE. RELAY PICKUP TIMES WERE LONGER THAN NORMAL FOR AFCC AND WFCO FUNCTIONS. SYSTEM EFFECT-OPERATION TOO LONG.							
VEHICLE EFFECT-COMPOSITE RE-SCHEDULED. POST-COMPOSITE TESTING REQUIRED.							
CORRECTIVE ACTION-THE TONE CHANNEL GENERATOR (AGE) AND THE SIGNAL GENERATOR IN THE AGE WERE REPLACED.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	BP-90-18-088-F COAX	FAR 27-81864-821	1390 830411	WTR	YES NO		090839
FAILURE MODE-OPEN (ELECTRICAL). CONNECTOR FELL OFF COAXIAL CABLE. POSSIBLY CAUSED BY MISHANDLING.							
CORRECTIVE ACTION-SITE PERSONNEL WERE MADE AWARE OF THE CAUSE OF FAILURE.							

FORM 8848

GENERAL DYNAMICS
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTH	VENDOR NAME VENDOR PART NO
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	MC-09-18-084-F RECEIVER	FAR 27-38014-3	030318	FACTORY	YES	AYCO NO
FAILURE MODE-ERRATIC OPERATION. ANINTERMITTENT AUTOMATIC GAIN CONTROL WAS APPARENTLY CAUSED BY THE MAKING AND BREAKING OF PIN 9 IN THE BROADBAND CONVERTER DURING VIBRATION. PROBABLY DUE TO BENT PIN.						
CORRECTIVE ACTION-VENDOR NOW USES PIN STRAIGHTENER.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	MC-09-18-080-F CAPACITOR	FAR 27-38014-3	1300 030305	FACTORY	YES	AYCO NO
FAILURE MODE-OUT OF SPEC. OR TOLERANCE-AUTOMATIC AND MANUAL FUEL CUTOFF TIMES TOO LONG. CAUSED BY ABOUT 100K LEAKAGE PATH FROM AUDIO AMPLIFIER CAPACITOR C2 TO GROUND.						
CORRECTIVE ACTION-CIC28077 DATED APRIL 1, 1963 AUTHORIZED CHANGE TO INSTALL SLEEVING ON THE CAPACITOR. SPARES WERE REMOVED, FIELD UNITS WERE RECYCLED FOR MODIFICATION.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	4X83-0003-1300/FC-CO-03-0004-022 RECEIVER NO. 1	COMPOSITE-FACTORY	1300 030302		YES NO	
FAILURE MODE-OUT OF SPECIFICATION OR TOLERANCE. RECEIVER NO. 1 AFCC AND MPCC ACTIVATION DELAY TIMES WERE OUT OF TOLERANCE.						
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS.						
VEHICLE EFFECT-COMPOSITE RE-SCHEDULED. SYSTEMS LEVEL AND COMPOSITE RETESTING REQUIRED.						
CORRECTIVE ACTION-RETESTING FAILED TO DUPLICATE THE DISCREPANCIES- HOWEVER, THE RECEIVER WAS REPLACED.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	PL-8CO-02-134 RECEIVER-RANGE SAFETY COMMAND NO.1	COMPOSITE-J FACT 27-38013-1	134F 030323	11	YES	AYCO NO AD319600
FAILURE MODE-ERRATIC OPERATION. NO.1 RBC RF INPUT AGC WAS VARYING ERRATICALLY AS INDICATED BY TELEMETRY MEASUREMENT DTV. MEASUREMENT VARIED PLUS AND MINUS 8 PERCENT 15W ABOUT THE NORMAL LEVEL OF 48 PERCENT INTERMITTENTLY. ALSO, SERIAL DROPS TO 19 PERCENT 15W (1 MICROWATT) WERE SEEN.						
SYSTEM EFFECT-OPERATION TOO LOW. DECREASES IN AGC SIGNAL STRENGTH TO APPROXIMATELY ONE MICROWATT WERE TOO LOW TO INSURE PROPER SYSTEM OPERATION.						
VEHICLE EFFECT-NONE.						
CORRECTIVE ACTION-POST COMPOSITE TESTING REFLECTED THE SAME GENERAL CHARACTERISTICS AND RECEIVER NO.1 S/W AP01-102						

15 JUN 1968

GENERAL DYNAMICS
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO	
WAS REPLACED. (FAR 98-18-081)							090873
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A-98-18-081-F RECEIVER	FAR	1347 830825	ETR-CX11	YES NO	AVCO AD-310000W12	090848
FAILURE MODE-OUT OF SPEC. RECEIVER 1 FAILED DURING THE FLIGHT ACCEPTANCE COMPOSITE TEST. THE AUTOMATIC GAIN CONTROL TELEMETRY MEASUREMENT FLUCTUATED. FAILURE WAS NOT CONFIRMED. HOWEVER, A BENT PIN, ON THE INPUT CHASSIS CONNECTOR, 2-3, SUPPLYING PLUS 28-VOLT D C TO THE RECEIVER WOULD NOT PROPERLY MATE.							
CORRECTIVE ACTION-SINCE FAILURE WAS UNCONFIRMED THERE WAS NO CORRECTIVE ACTION.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	MG-99-18-058-F AMPLIFIER, RECEIVER	FAR 27-36014-3	830815	FACTORY	YES NO	AVCO	090781
FAILURE MODE-OUT OF TOLERANCE. WIDE BAND- WIDTH CAUSED BY I.P. AMPLIFIER DETUNING UNDER VIBRATION. RETAINING SPRING ON PADDER CAPACITOR ADJUSTING SCREW TOO WEAR.							
CORRECTIVE ACTION-VENDOR CHANGED TO USE OF A TORQUE SCREW DRIVER FOR DETECTING WEAR SPRINGS.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	MG-99-18-160-F DESTRUCT WARENESS-COAXIAL	FAR 27-91893-3	130-D 830814	FACTORY	YES NO	GDAC	090840
FAILURE MODE-STRUCTURAL-COAXIAL CONNECTOR LOOSE ON COAXIAL CABLE BETWEEN THE RING COUPLER AND A RECEIVER.							
CORRECTIVE ACTION-N.P.S. 25.18.48 AMENDED TO REDUCE CONNECTOR NUT TORQUE VALUE FROM SEVENTY PLUS TEN MINUS ZERO TO FORTY PLUS FIVE MINUS ZERO INCH POUNDS.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	MG-99-18-099-F AMPLIFIER, RECEIVER	FAR 27-36014-3	830807	FACTORY	YES NO	AVCO	090782
FAILURE MODE-OUT OF SPEC. OR TOLERANCE. RECEIVER BAND WIDTH WAS TOO WIDE AND WAS CAUSED BY I.P. AMPLIFIER DETUNING UNDER VIBRATION. RETAINING SPRING ON PADDER CAPACITOR ADJUSTING SCREW TOO WEAR.							
CORRECTIVE ACTION-VENDOR CHANGED TO USE OF A TORQUE SCREWDRIVER FOR DETECTING WEAR SPRINGS.							

GENERAL DYNAMICS
CONVAIR DIVISION

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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	DATE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	MG-55-18-033-F AMPLIFIER	FAR 27-38014-3	830123	FACTORY	YES NO	AYCO	890747
FAILURE MODE-OUT OF TOLERANCE. WIDE BANDWIDTH CAUSED BY I.F. AMPLIFIER DETUNING UNDER VIBRATION. RETAINING SPRING O N PADDOR CAPACITOR ADJUSTING SCREW TOO WEAK.							
CORRECTIVE ACTION-VENDOR CHANGED TO USE OF A TORQUE SCREWDRIVER FOR DETECTING WEAK SPRINGS.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	MG-59-18-081-F AMPLIFIER	FAR 27-38013-3	830119	FACTORY	YES NO	GOC	890734
FAILURE MODE-ERRATIC OPERATION-OUTPUT VARIED FROM 2.80 TO 19.80 VRMS. CAUSE WAS A COLD SOLDER CONNECTION IN THE AMP LIFIER.							
CORRECTIVE ACTION-INSPECTION PERSONNEL WERE INFORMED OF THE CAUSE OF FAILURE. SOLDER CONNECTION INSPECTION PROCEDUR ES WERE IMPROVED.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	MG-59-18-036-F AMPLIFIER, RECEIVER	FAR 27-38014-3	830110	FACTORY	YES NO	AYCO	890748
FAILURE MODE-OUT TOLERANCE. NARROW BAND WIDTH CAUSED BY I.F. AMPLIFIER DETUNING UNDER VIBRATION. RETAINING SPRING O N PADDOR CAPACITOR ADJUSTING SCREW TOO WEAK.							
CORRECTIVE ACTION-VENDOR CHANGED TO USE OF A TORQUE SCREWDRIVER FOR DETECTING WEAK SPRINGS.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	MG-59-18-048F RECEIVER	FAR 27-38014-3	1300 830103	FACTORY	YES NO	AYCO AD3190000001	890743
FAILURE MODE-OUT OF TOLERANCE. DESTRUCT COMMAND BURST LASTED FOR .280 SEC. INSTEAD OF .290 SEC. ALL OTHER RECEIVER OPERATION WAS NORMAL.							
CORRECTIVE ACTION-NONE REQUIRED. AIR FORCE CHANGED SPECIFICATION LIMITS TO RANGE FROM 110 MILLISEC. TO 350 MILLISEC							

GENERAL DYNAMICS
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	MG-A9-18-048-F RECEIVER	FAR 27-36014-3	130D 830103	FACTORY	YES NO	YES NO AD519600MK1
FAILURE MODE-OUT OF TOLERANCE. DROP IN INDICATED BANDWIDTH GREATER THAN EXPECTED. THIS DROP IS AN INDICATION THAT PROPER COMMANDS HAVE BEEN RECEIVED. NO LIMIT IS SPECIFIED. RECEIVER OPERATED SATISFACTORILY.						
CORRECTIVE ACTION-NONE REQUIRED.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	SP-A9-18-054-F RECEIVER	FAR	621503	FACTORY	YES NO	YES NO AD519600MK1
FAILURE MODE-OUT OF TOLERANCE. AUTOMATIC AND MANUAL FUEL CUTOFF TIMES WERE TOO LONG. FAILURE CONFIRMED TWICE AFTER WHICH OPERATION WAS NORMAL. CAUSE OF MALFUNCTION NOT DETERMINED.						
CORRECTIVE ACTION-NONE						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AX83-0003-1300/FC-CO-0J-0004-022 RECEIVER	COMPOSITE-FACTORY	130D 621228		NO NO	
FAILURE MODE-OUT OF TOLERANCE. TELEMETRY MEASUREMENT D7V (AGC INPUT TO NO. 1 RECEIVER) INDICATED DECREASES OF 33 PERCENT 18W WHEN 15 PERCENT WAS EXPECTED DURING TONE CHANNEL ACTIVATION. THIS WAS CAUSED BY AN AGC MALFUNCTION.						
SYSTEM EFFECT-OPERATION TOO LOW. AGC INPUT TO NO. 1 RECEIVER INDICATED DECREASES OF 33 PERCENT 18W WHEN 15 PERCENT WAS EXPECTED DURING TONE CHANNEL ACTIVATION.						
VEHICLE EFFECT-COMPOSITE RE-SCHEDULED. POST-COMPOSITE TESTING REQUIRED.						
CORRECTIVE ACTION-NONE. UNKNOWN.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A-99-18-187-F DESTRUCT WAREHOUSE-COAXIAL	FAR 27-91858-001	135F 021227	FACTORY	YES NO	YES NO 607C
FAILURE MODE-STRUCTURAL-COAXIAL CONNECTOR PARTED FROM COAXIAL CABLE.						
CORRECTIVE ACTION-QUALITY CONTROL CORRECTIVE ACTION INITIATED TO TORQUE US338 A/U CONNECTOR NUTS TO SEVENTY FIVE PL US TEN MINUS ZERO INCH POUNDS IN COMPLIANCE WITH N.P.S. 25.16.6B.						

19 JUN 1966

GENERAL DYNAMICS
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PHI OTH	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	N2-AS-18-033-F AMPLIFIER	PAR	821227	FACTORY	YES NO	AVCO NO A0319600M13	090766
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME-I.F. AMPLIFIER FAILURE PREVENTED RECEIVER OPERATION. I.F. AMPLIFIER FAILURE CAUSED BY SHORT CIRCUIT DUE TO IMPROPERLY PLACED PART.							
CORRECTIVE ACTION-VENDOR INSTITUTED VISUAL AIDS TO ASSURE PROPER ASSEMBLY.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A162-0070/FC-4CO-03-0502-002 RECEIVER RELAY	COMPOSITE-FACTORY	1160 821203		YES NO		090766
FAILURE MODE-FAILED TO OPERATE AT PRESCRIBED TIME. THE RELAY ACTIVATION DELAY TIME FOR THE AUTOMATIC AND MANUAL FUEL CUTOFF FUNCTIONS WERE EXCESSIVE FOR RECEIVER NO.1 OUTPUTS.							
SYSTEM EFFECT-OPERATION. THE RELAY ACTIVATION DELAY TIME WAS TOO LONG.							
VEHICLE EFFECT-COMPOSITE RESCHEDULED. COMPOSITE RE-RUN REQUIRED.							
CORRECTIVE ACTION-RECEIVER NO.1 WAS REPLACED.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A162-0048/FC-4CO-02-137 RECEIVER	COMPOSITE-FACTORY	1370 821003		NO NO		090111
FAILURE MODE-OUT OF TOLERANCE. TLM RECEIVER NO. 1 RF INPUT/AGC LEVEL INCORRECT. THIS WAS CAUSED BY A BROKEN SHAFT COUPLING IN THE RSC CHECKOUT SET ATTENUATION DIAL WHICH RESULTED IN AN INCORRECT INPUT LEVEL.							
SYSTEM EFFECT-IMPROPER ANALOG SIGNALS- ATTENUATION SET INCORRECTLY ON AGE RESULTED IN READOUT OF IMPROPER ANALOG 91 SIGNAL.							
VEHICLE EFFECT-COMPOSITE RESCHEDULED. RE-RUN OF COMPOSITE REQUIRED.							
CORRECTIVE ACTION-THE SHAFT COUPLING WAS REPLACED.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AP-98-18-041-F RECEIVER	PAR 87-34013	820912	12	YES NO	AVCO NO A0319600	094033
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. THE RECEIVER WOULD NOT DECODE THE AUTOMATIC SUSTAINER CUTOFF TONE AND SEND THE SUSTAINER ENGINE CUTOFF SIGNAL. THE FAILURE MODE WAS NOT CONFIRMED.							
CORRECTIVE ACTION-NO CORRECTIVE ACTION.							

GENERAL DYNAMICS
COMNAV DIVISION

13 JUN 1968

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTM	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A-90-18-045F BOX-JUNCTION	FAR 27-15785-9	83F 820911	WTR	YES NO	60C	999927
FAILURE MODE-SHORT (ELECT). THE SOLDERED JOINT BETWEEN JACK 212 AND THE JUNCTION SHELL OF THE REFERENCE JUNCTION ASSEMBLY WAS BROKEN. THE JOINT WAS SOLDERED POORLY.							
CORRECTIVE ACTION-EDC TOOK QUALITY CONTROL ACTION BY 1. ADVISING THE PRODUCTION DEPT. OF THE DISCREPANCY-2. REVIEWING MANUFACTURING TECHNIQUES IN THE SHOP.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A-90-18-045-F ANTENNA	FAR 27-15907-1	820916	FACTORY	YES NO		994034
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. THE ANTENNA FAILED TO PASS THE INSERTION LOSS TEST OF EOP 330.36. THE FAILURE WAS NOT CONFIRMED. THE MOST LIKELY CAUSE OF THE REPORTED FAILURE IS IMPROPER CONNECTION OF THE ANTENNA TEST COUPLER TO THE ANTENNA.							
CORRECTIVE ACTION-EOP 33-330.36 WAS REVISED. THE NEW INSTRUCTIONS REQUIRE THE PROPER ALIGNMENT OF ALL HOLES AND THE USE OF SCREWS AND BOLTS TO PROVIDE A SECURE AND EVEN CONNECTION BETWEEN THE ANTENNA COUPLER AND THE ANTENNA.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A-90-18-038F POWER SUPPLY-TRANSISTOR	FAR 27-36013	2150 820730	FACTORY	YES NO	AVCO AD3186000K-1	994068
FAILURE MODE-ELECTRICAL OPEN. THE COMMAND RECEIVER FAILED TO GIVE THE PROPER OUTPUT SIGNALS DURING SYSTEM TESTS. A 2W59 OUTPUT TRANSISTOR IN THE POWER SUPPLY FAILED BY HAVING ITS EMITTER LEAD BURN OPEN.							
CORRECTIVE ACTION-AVCO WAS INFORMED OF THE FAILURE AND THE FINDINGS OF THE FAILURE ANALYSIS.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A62-0092/01-501-00-67 ANTENNA INSTALLATION FINGER	FLIGHT	87E 820713	F	YES NO		991846
FAILURE MODE-SHORT (ELECT). CORONA BREAKDOWN WAS EXPERIENCED BETWEEN THE INSTRUMENTATION AND RANGE SAFETY SYSTEM TRANSMITTING ANTENNA AND THE ANTENNA INSTALLATION FINGERS, FROM 116.3 TO 128 SECONDS. CORONA WAS DUE TO IMPROPERLY TRIMMED INSTALLATION FINGERS, AND OCCURRED WHILE PASSING THROUGH ION BELTS.							
SYSTEM EFFECT-NONE. SINCE NO DESTRUCT COMMANDS WERE GENERATED.							
VEHICLE EFFECT-NONE.							
CORRECTIVE ACTION-ANTENNA INSTALLATION FINGER TRIM ON SUBSEQUENT FLIGHTS WAS GIVEN MORE CAREFUL ATTENTION.							

GENERAL DYNAMICS
CONVAIR DIVISION

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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF TIME	SITE DIF TIME	PRI OTH	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	PE-4CO-04-145	COMPOSITE-B FACT 27-36013-1	1450 020713	12	NO NO	AVCO	090121
FAILURE MODE-ERRATIC OPERATION. RF INPUT/AGC LEVEL WAS VARYING FROM 5 TO 20 PCT IDV. PROBLEM WAS TRACED TO GROUND C COMMAND CARRIER SIGNAL FLUCTUATIONS.							
SYSTEM EFFECT-IMPROPER ANALOG SIGNALS.							
VEHICLE EFFECT-COMPOSITE DELAYED.							
CORRECTIVE ACTION-RECEIVER NO. 1 WAS REPLACED TO ASSURE SYSTEM INTEGRITY.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AX82-0030/PC-4CO-04-113	COMPOSITE-FACTORY	113D 020627		NO NO		090097
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME - TONE CHANNEL NO.1 WAS SET LATE AND THE SWITCHING SEQUENCE OF THE TAYLOR PROGRAMMER WAS INCORRECT.							
SYSTEM EFFECT-OPERATION STARTS TO LATE - TONE CHANNEL NO.1 SENT LATE AND PROGRAMMING OUT OF SEQUENCE.							
VEHICLE EFFECT-COMPOSITE RE-SCHEDULED - RERUN OF COMPOSITE WAS REQUIRED AFTER REVALIDATION OF TEST EQUIPMENT							
CORRECTIVE ACTION-THE TAYLOR PROGRAMMER WAS REVALIDATED AND SUBSEQUENT TESTING INDICATED PROPER SEQUENCING.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AX82-0030/AR141-D-1-113/PC-4CO-02- 113	COMPOSITE-FACTORY	113D 020613		NO NO		090100
FAILURE MODE-PREATURE OPERATION- AN EXTRANEIOUS MANUAL FUEL CUTOFF SIGNAL OF APPROXIMATELY 3 MILLI- SECONDS WAS OBS ERVED. THIS CONDITION WAS ATTRIBUTED TO A MOMENTARY DROPOUT OF TONE CHANNEL 2, CAUSED BY A MAGNETIC COUPLING WITHIN THE SIGNAL GENERATOR WHEN THE TONE 3 OSCILLATOR RELAY WAS DEACTIVATED. THE PROBLEM IS SOLELY TEST EQUIPMENT.							
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. PROMATURE MANUAL FUEL CUTOFF SIGNAL WOULD CAUSE EARLY SHUT DOWN OF ENGINES							
VEHICLE EFFECT-NONE.							
CORRECTIVE ACTION-TEST EQUIPMENT DESIGN GROUP IS INVESTIGATING A MEANS OF RECTIFICATION.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	BP-19-18-034-F RECEIVER	FAR	1000 020800	FACTORY	YES NO	AVCO A0819000W1	
FAILURE MODE-OUT OF SPECIFICATION. THE RECEIVER ADMITTED SIGNALS OF 1000 TIMES THE MINIMUM INPUT LEVEL. THE REPORT OF FAILURE WAS NOT CONFIRMED.							

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GENERAL DYNAMICS
CONTAIN DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTH	VENDOR NAME VENDOR PART NO	
CORRECTIVE ACTION-THE CAUSE OF THE REPORTED FAILURE WAS AN ERROR IN THE ACCEPTANCE PROCEDURE, 27-03028-1, NOW CORRECTED IN REVISION C.							093063
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A-90-18-033C COAX	PAR 27-01097-001	620608	WTR	YES	GOC NO	093064
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. NO ATTENUATION READING WAS RECEIVED FROM COMMAND DESTRUCT, VI. THE COAXIAL CABLE CONNECTS THE ANTENNA ON 9-1 POD TO RECEIVER NUMBER 1. THE CABLE WAS DISMANTELED IN THE FIELD, THEREFORE NO FAILURE ANALYSIS COULD BE PERFORMED.							
CORRECTIVE ACTION-NO CORRECTIVE ACTION.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	ARI41-0-3-11/FC-8CO-04-011 RECEIVER	COMPOSITE-FACTORY 27-12171-029	11F 611106	YES NO			093064
FAILURE MODE-ERRATIC OPERATION-TLM MEASUREMENT DTV, MONITORING RANGE SAFETY COMMAND RECEIVER NO. 1 ACC, INDICATED VARIATIONS DURING THE PERIOD WHEN THE RF GENERATOR WAS OFF. THE RECEIVER WAS FOUND TO BE FAULTY AND WAS REPLACED.							
SYSTEM EFFECT-ERRATIC OPERATION-RECEIVER GAIN CHANGED WITH NO INPUT CHANGE.							
VEHICLE EFFECT-COMPOSITE DELAYED. POST COMPOSITE SYSTEM TEST REQUIRED TO DEMONSTRATE SATISFACTORY SYSTEM OPERATION.							
CORRECTIVE ACTION-RECEIVER NO. 1, 3/M AF81-2079 WAS REPLACED WITH 3/M AF81-189.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AE81-0098/FC-4CO-01-102	COMPOSITE-FACTORY 1090 611104	NO NO	AD319400H81			093069
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME-NO INDICATION OF COMMAND OUTPUTS FROM RECEIVERS WERE OBSERVED ON TLM MEASUREMENTS OF RANGE SAFETY COMMAND SYSTEM.							
SYSTEM EFFECT-OPERATION DOES NOT START. THIS WAS CAUSED BY AN ERROR IN ADJUSTMENT OF THE RF INPUT SIGNAL TO THE RECEIVERS.							
VEHICLE EFFECT-COMPOSITE RESCHEDULED-COMPOSITE TEST: HAD TO BE RERUN AFTER RF LEVELS WERE RESET.							
CORRECTIVE ACTION-RESET R.F. SIGNAL LEVELS.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AE81-0277/FC-4CO-01-118	COMPOSITE-FACTORY 1180 610784	YES NO				
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. THE DESTRUCT SUBSTITUTION UNIT AND NOISE CONE SIMULATOR FUSES FAILED TO INDICATE AN OPEN, AND COMMAND DESTRUCT NOS 1+2 DID NOT ACTUATE DURING TEST. INVESTIGATION REVEALED THAT THE COMMAND RECEIVERS WERE ERRONEOUSLY LEFT IN THE EXTERNAL POSITION.							

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GENERAL DYNAMICS
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTH	VENDOR NAME VENDOR PART NO	
	SYSTEM EFFECT-OPERATION DOES NOT START. RECEIVERS NOT TURNED ON DURING COMPOSITE TEST. VEHICLE EFFECT-COMPOSITE RESCHEDULED. POST COMPOSITE TESTING REQUIRED. CORRECTIVE ACTION-NOT KNOWN.						999786
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AE81-0280/PC-SC-002 RECEIVER	COMPOSITE-FACTORY 810913	242	YES NO			999434
FAILURE MODE-FAIL DURING OPERATION. RECEIVER NO. 1 STOPPED OPERATING AT 1 PLUS 242 SECONDS AND REMAINED INOPERATIVE UNTIL THE END OF THE TEST. SYSTEM EFFECT-OPERATION STOPPED PREMATURELY. VEHICLE EFFECT-COMPOSITE DELAYED. CORRECTIVE ACTION-NONE. EXTENSIVE TESTING IN COMPONENT AREA FAILED TO FIND ANY TROUBLE. POST COMPOSITE TEST ON M133 ILE WAS PERFORMED SATISFACTORY.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AE81-0015/PC-4CO-08-088 RECEIVERS	COMPOSITE-FACTORY 810427	880	YES NO			999287
FAILURE MODE-FAIL DURING OPERATION RESPONSE TIMES FOR RECEIVERS NO. 1 AND NO. 2 FOR APCO WERE 83 AND 43 MILLISECONDS AND FOR WPCO WERE 48 AND 36 MILLISECONDS. A MAXIMUM OF 30 MILLISECONDS IS ALLOWED. SYSTEM EFFECT-OPERATION TOO LONG. VEHICLE EFFECT-COMPOSITE RESCHEDULED. SYSTEMS LEVEL AND COMPOSITE RETESTS REQUIRED. CORRECTIVE ACTION-RECEIVER NO. 1 WAS REPLACED.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AE81-015/PC-4CO-08-088 RECEIVER NO. 2, CONNECTOR	COMPOSITE-FACTORY 810419	880	YES NO			999289
FAILURE MODE-FAIL DURING OPERATION. CHANNEL NO. 9 OF MIDWESTERN RECORDER NO. 1 INDICATED DROX JITS OF DESTRUCT NO. 2. SYSTEM EFFECT-ERRATIC OPERATION DUE TO MOISTURE IN CONNECTOR PLUG. VEHICLE EFFECT-COUNTDOWN OR COMPOSITE DELAYED OR RESCHEDULED. POST-COMPOSITE TESTING WAS REQUIRED. CORRECTIVE ACTION-DEFECTIVE ELECTRICAL PLUG REPAIRED AND MOISTURE REMOVED FROM DESTRUCT DELAY PLUGS.							

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GENERAL DYNAMICS
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTH	VENDOR NAME VENDOR PART NO
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AES1-0013/PC-4CO-00-008 RECEIVER NO. 1	COMPOSITE-FACTORY	480 810411	NO NO		
<p>FAILURE MODE-FAIL DURING OPERATION. THE RESPONSE TIME OF AFCD NO. 1 TO INDICATED TONE CHANNELS 2 AND 3 WAS 3 HILLS 30 SECONDS LATE.</p> <p>SYSTEM EFFECT-OPERATION TOO LONG.</p> <p>VEHICLE EFFECT-COMPOSITE DELAYED. FOR -COMPOSITE TEST WAS REQUIRED.</p> <p>CORRECTIVE ACTION-REPLACED THE TONE CHANNELS 2 AND 3 OSCILLATOR TUBES AND RELAYS IN THE CHECKOUT SET.</p>						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	98-18-027 POWER SUPPLY, RECEIVER	FAR 27-30014-1	1000 810411	ETR NO	YES NO	YES NO
<p>FAILURE MODE-FAIL DURING OPERATION. DURING SYSTEM CHECKOUT THE RECEIVER CANISTER DREW EXCESSIVE CURRENT THEN DREW IN ONE. POWER SUPPLY DAMAGE WAS. 1) POWER TRANSISTORS. 2) OPEN INTERNAL EMITTER LEADS. 3) POWER TRANSFORMER, POTTING DISTORTED AND CRACKED. 3) BIAS RESISTOR, CHARGED FIBERGLASS COVERING.</p> <p>CORRECTIVE ACTION-SINCE THE CAUSE OF FAILURE COULD NOT BE DETERMINED, THERE WAS NO CORRECTIVE ACTION.</p>						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	98-18-028 RECEIVER-CONNECTOR, ELECT	FAR 27-30014-1	1000 810411	ETR NO	YES NO	YES NO
<p>FAILURE MODE-SHORT-ELECTRICAL. DURING SYSTEM CHECKOUT THE ANTENNA INPUT JACK, J1, INTERMITTENTLY SHORTED TO GROUND AS THE EXTERNAL CONNECTOR WAS MOVED. THE FAILURE COULD NOT BE CONFIRMED BY ANALYSIS. A SHORT IN THE INTERNAL CONNECT OR OR CABLE PROBABLY CAUSED THE FAILURE.</p> <p>CORRECTIVE ACTION-SINCE THE CAUSE OF FAILURE WAS NOT DETERMINED, THERE WAS NO CORRECTIVE ACTION.</p>						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AES1-0013/PC-5CO-01-023 OSCILLATOR	COMPOSITE-FACTORY	23E 810382	FACTORY NO	NO NO	
<p>FAILURE MODE-FAIL DURING OPERATION. TONE CHANNEL 2 MALFUNCTIONED DURING THE COMMAND SEQUENCE ON ANTENNA NO. 2.</p> <p>SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS.</p> <p>VEHICLE EFFECT-COMPOSITE RE-SCHEDULED. POST-COMPOSITE TESTING REQUIRED.</p> <p>CORRECTIVE ACTION-REPLACED TONE CHANNEL NO. 2 OSCILLATOR IN THE MODULATION DRAWER OF THE AGE.</p>						

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GENERAL DYNAMICS
CONVAIR DIVISION

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AE61-0013/PC-4CO-01-104	COMPOSITE-FACTORY	010108		NO NO		090109
<p>FAILURE MODE-FAILED TO OPERATE AT THE PROPER TIME- THE AUTOMATIC FUEL CUTOFF RESPONSE TIME TO TONE CHANNEL SWITCHING EXCEEDED THE 20 MILLISECOND LIMIT. DIFFICULTY TRACED TO CHECKOUT EQUIPMENT.</p> <p>SYSTEM EFFECT-IMPROPER DISCRETE SIGNAL-TIME DELAY OF SIGNAL TOO LONG.</p> <p>VEHICLE EFFECT-COMPOSITE RESCHEDULED.</p> <p>CORRECTIVE ACTION-THE MODULATION DRAINER OF THE CHECKOUT SET WAS REPLACED.</p>							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AE61-0013/PC-4CO-03-088 RECEIVER NO. 2	COMPOSITE-FACTORY	080 001221		YES NO		090209
<p>FAILURE MODE-FAIL DURING OPERATION RESPONSE TIME FOR MFCO WAS 78 MILLISECONDS. A MAXIMUM OF 30 MILLISECONDS IS ALLOWED.</p> <p>SYSTEM EFFECT-OPERATION TOO LONG.</p> <p>VEHICLE EFFECT-COMPOSITE RESCHEDULED. SYSTEMS LEVEL AND COMPOSITE RETESTS REQUIRED.</p> <p>CORRECTIVE ACTION-THE RECEIVER WAS REPLACED.</p>							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AE61-0013/PC-4CO-03-088 RECEIVER NO. 1	COMPOSITE-FACTORY	080 001221	30	NO NO		090103
<p>FAILURE MODE-FAIL DURING OPERATION. RECEIVER NO. 1 DROPPED OUT AT 36 SECONDS.</p> <p>SYSTEM EFFECT-OPERATION STOPS PREMATURELY.</p> <p>VEHICLE EFFECT-COMPOSITE DELAYED. POST-COMPOSITE TESTING WAS REQUIRED.</p> <p>CORRECTIVE ACTION-TIGHTENED LOOSE UNBILICAL CABLES.</p>							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AE61-0013/PC-4CO-01-088 RECEIVER NO. 2, WIRING	COMPOSITE-FACTORY	080 001816	148	YES NO		090209
<p>FAILURE MODE-SHORT (ELECT) RECEIVER NO. 2 DESTROYED ENABLE APPEARED TO DROP OUT THREE TIMES AT APPROXIMATELY 148 SEC ONDS.</p> <p>SYSTEM EFFECT-LOSS OF REDUNDANCY.</p> <p>VEHICLE EFFECT-COMPOSITE RESCHEDULED. POST-COMPOSITE TESTING REQUIRED.</p> <p>CORRECTIVE ACTION-REPLACED AN INTERMITTENTLY BOUNDED COAXIAL CABLE.</p>							
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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	90-18-026 RECEIVER-DIODE	FAR 27-38013-1	4E 601004	ETR	YES NO	AYCO	994479
FAILURE MODE-SHORT-ELECTRICAL. DURING COUNTDOWN OPERATIONS THE RECEIVER FAILED TO INITIATE THE AUTOMATIC FUEL CUTOFF WHEN SIGNALS WERE TRANSMITTED. EXACT CAUSE OF FAILURE COULD NOT BE DETERMINED. PROBABLE CAUSE OF FAILURE IS A SHORTED DIODE TYPE 618C.							
CORRECTIVE ACTION-DOC REQUESTED VENDOR TO INTENSIFY INSPECTION SURVEILLANCE OF INCOMING COMPONENTS, ESPECIALLY TYPE 618C DIODES.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	90-18-023 RECEIVER	FAR 27-38013-1	3E 601004	ETR	YES NO	AYCO	994479
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME-DURING COUNTDOWN PROCEDURES THE RECEIVER FAILED TO INITIATE THE AUTOMATIC FUEL CUTOFF WHEN SIGNALS WERE TRANSMITTED.							
CORRECTIVE ACTION-NO CORRECTIVE ACTION SINCE FAILURE WAS NOT CONFIRMED AND THE CAUSE OF THE FAILURE WAS NOT ESTABLISHED.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	90-0108/79-502-00-03 RECEIVER	FRF	3E 601003	13	YES NO		993907
FAILURE MODE-FAIL DURING OPERATION. DURING THE FIRST SEQUENCE OF COMMAND TESTS A 1/16TH AMP FUSE IN THE COMMAND NO. 1 DESTRUCT SYSTEM FAILED. DURING THE SECOND THE COMMAND NO. 1 RECEIVER FAILED TO REGISTER AFPO WHEN THE FUNCTION WAS TRANSMITTED. SUBSEQUENT TESTING COULD NOT REPEAT EITHER PROBLEM.							
SYSTEM EFFECT-NONE.							
VEHICLE EFFECT-NONE.							
CORRECTIVE ACTION-ESC RECEIVER NO. 1 WAS REPLACED.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	90-0108/79-502-00-03 RECEIVER	FRF	3E 601003	13	YES NO		993907
FAILURE MODE-FAIL DURING OPERATION. DURING SECOND FRF, A 1/16 AMP FUSE IN COMMAND NO. 1 DESTRUCT SYSTEM FAILED. ESC-1A-2C FAILED TO REGISTER AFPO WHEN IT WAS TRANSMITTED. RECEIVER FAILURE CAUSED BOTH PROBLEMS.							
SYSTEM EFFECT-OPERATION. INTERMITTENT PROBLEMS WITH RANGE SAFETY RECEIVER.							
VEHICLE EFFECT-COUNTDOWN DELAYED AND RESCHEDULED. SUBSEQUENT RESULTS OF TEST WOULD NOT REPEAT THE TWO PROBLEMS. TEST WAS THEN RESCHEDULED AFTER REPLACEMENT OF THE RECEIVER.							

GENERAL DYNAMICS
COMBAT DIVISION

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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-LINCOLN

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIFF TIME	SITE	PSI IP OR	VENDOR NAME VENDOR PART NO
CORRECTIVE ACTION-REPLACE THE RECEIVER IN NO. 1 SYSTEM. REGRIND PROPER OPERATION OF REPLACEMENT ITEM.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AE80-0811/PC-400-01-077 RECEIVERS	COMPOSITE-FACTORY	770 800902	NO NO		
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. THE FIRST BSC SEQUENCE OF THE MFCO, AFCC AND DESTRUCT FUNCTIONS DID NOT OCCUR.						
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS						
VEHICLE EFFECT-COUNTDOWN OR COMPOSITE DELAYED OR RE-SCHEDULED. POST-COMPOSITE TESTING REQUIRED.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AE80-0811/PC-400-02-077 RECEIVERS	COMPOSITE-FACTORY	770 800908	NO NO		
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. AMFC RELAY DELAY PICKUP TIME WAS OUT OF TOLERANCE.						
SYSTEM EFFECT-OPERATION TOO LONG.						
VEHICLE EFFECT-COMPOSITE DELAYED. POST-COMPOSITE TESTING REQUIRED.						
CORRECTIVE ACTION-REPLACED MODULATION GENERATOR.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	98-18-024 RECEIVER-DIODE	FAR 27-34013-1	770 800902	ETR	YES AVOO NO	
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME-DURING CHECKOUT RECEIVER FAILED TO INITIATE THE AUTOMATIC FUEL CUTOFF WHEN SIGNALS WERE TRANSMITTED. FILTER DIODE, 810C, WAS RESPONSIBLE FOR THE FAILURE.						
CORRECTIVE ACTION-24-60/C HAS REQUESTED THE VENDOR TO INTENSIFY INSPECTION SURVEILLANCE OF INCOMING COMPONENTS.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AE80-0811/PC-400-01-079 RECEIVERS	COMPOSITE-FACTORY	770 800902	ETR	NO NO	
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. THE AFCC AND DESTRUCT FUNCTIONS EXPECTED AT 85 AND 35 SECONDS RESP. TIME WERE NOT GENERATED.						
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS.						
VEHICLE EFFECT-COMPOSITE DELAYED. POST-COMPOSITE TESTING REQUIRED.						
CORRECTIVE ACTION-REPLACED INTERMITTENT MODULATION GENERATOR IN ACK.						

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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTH	VENDOR NAME VENDOR PART NO
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AE80-0337/P8-408-00-87 RECEIVER	FLIGHT	27D 600827	12 326.44	YES NO	090098
<p>FAILURE MODE-ELECTRICAL SHORT.-WHEN WFCO SIGNAL WAS RECEIVED AT MISSILE, RSC RECEIVER NO. 1 AGC VOLTAGE DROPPED RAPIDLY FROM 80 TO 38 PERCENT IBW AND REMAINED UNTIL THE WFCO SIGNAL WAS TERMINATED. TELEMETRY DATA INDICATED RECEIVER NO. 1 WFCO SIGNAL WAS SHORTED TO GROUND.</p> <p>SYSTEM EFFECT-LOSS OF REDUNDANCY.</p> <p>VEHICLE EFFECT-NONE.-FUNCTION COMPLETED BY REDUNDANT RECEIVER AND ASSOCIATED CIRCUIT.</p> <p>CORRECTIVE ACTION-UNKNOWN-LAB TESTING WAS INITIATED AND FAILURE MODE WAS SIMULATED BY SHORTING THE RECEIVER WFCO OUTPUT WIRE TO GROUND.</p>						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	98-18-081 RECEIVER-CAPACITOR	FAR	35D 600528	ETR NO	YES NO	093768
<p>FAILURE MODE-ELECTRICAL SHORT. DURING SYSTEM CHECKOUT CHANNEL ONE FAILED TO ENERGIZE WHEN THE APPROPRIATE SIGNAL WAS TRANSMITTED. THE CAUSE OF FAILURE WAS A SHORTED BYPASS CAPACITOR, C-728, IN THE CHANNEL ONE RELAY AMPLIFIER CIRCUIT. THE CAUSE OF THE CAPACITOR FAILURE COULD NOT BE DETERMINED.</p> <p>CORRECTIVE ACTION-SINCE RSC RECEIVER, P/N AD 319600, HAS BEEN PHASED INTO SERVICE AND HAS REPLACED RECEIVER P/N 7-3 6000, THERE WAS NO CORRECTIVE ACTION.</p>						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AE80-0487/PC-4CO-03-027 RECEIVER	COMPOSITE-FACTORY	27D 600509		YES NO	090338
<p>FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. AFCC 1 AND WFCO 1 SIGNALS DID NOT OCCUR AT THE PROPER TIMES.</p> <p>SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS.</p> <p>VEHICLE EFFECT-COMPOSITE RESCHEDULED. COMPOSITE RE-TEST REQUIRED.</p> <p>CORRECTIVE ACTION-RECEIVER REPLACED.</p>						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	AE80-0383/PC-9CO-01-08 RECEIVER	COMPOSITE-FACTORY	3E 600487		YES NO	
<p>FAILURE MODE-OUT OF TOLERANCE-A LOW VALUE OF AGC VOLTAGE (TLM DPM) WAS EVIDENCED FOR VARYING DURATIONS FOLLOWING EACH DESTRUCT SIGNAL.</p> <p>SYSTEM EFFECT-OPERATION TOO LOW.</p> <p>VEHICLE EFFECT-COMPOSITE DELAYED. RETESTS ON A SYSTEMS LEVEL REQUIRED TO SHOW PROPER OPERATION.</p>						

GENERAL DYNAMICS
CONVAIR DIVISION

15 JUN 1966

DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTH	VENDOR NAME VENDOR PART NO
CORRECTIVE ACTION-COMMAND RCVR NO. 1 WAS REPLACED.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER-RECEIVER	AE60-0339/PC-4CO-01-02 RECEIVER	COMPOSITE-FACTORY	600330	YES NO		
FAILURE MODE-OUT OF TOLERANCE. DESTRUCT NO.8 PICKED UP LESS THAN THE EXPECTED 189 MILLISECOND MINIMUM DELAY AFTER REMOVAL OF TONE CHANNEL 9.						
SYSTEM EFFECT-IMPROPER DISCRETE SIGNAL.						
VEHICLE EFFECT-COMPOSITE RESCHEDULED.						
CORRECTIVE ACTION-RECEIVER REPLACED. COMPOSITE TEST REQUIRED ON NEW RECEIVER.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER-RECEIVER	98-18-010 RECEIVER-DIODE	FAR	480 600316	ETR	YES NO	AVCO AD319000MK1
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME-A PERMANENT JUNCTION BREAKDOWN DESTROYED REVERSE RESISTANCE CHARACTERISTICS IN A DIODE CAUSING THE CANISTER TO FAIL TO GIVE THE FUEL CUTOFF INDICATION WHEN SIGNALS WERE TRANSMITTED.						
CORRECTIVE ACTION-GOC IS MAINTAINING SURVEILLANCE OF THIS COMPONENT.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER-RECEIVER	98-18-020 RECEIVER	FAR 7-38000-821	580 600307	ETR	NO YES	
FAILURE MODE-FAIL DURING OPERATION. DURING SYSTEM CHECKOUT, THE RECEIVER REPORTEDLY FAILED TO EXTINGUISH THE INDICATOR LIGHTS WHEN ALL THREE CHANNELS WERE OPERATED SIMULTANEOUSLY. THE FAILURE WAS NOT CONFIRMED BY ANALYSIS. IT WAS CONCLUDED THAT THE REPORTED FAILURE OCCURRED AS A RESULT OF CONDITIONS EXTERNAL TO THE CANISTER.						
CORRECTIVE ACTION-SINCE THE CAUSE OF FAILURE WAS NOT DETERMINED, THERE WAS NO CORRECTIVE ACTION.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER-RECEIVER	98-18-011 RECEIVER-DIODE	FAR	420 600300	ETR	YES NO	AVCO AD319000MK1
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME-A DISCRIMINATOR DIODE, 996, IN THE IF SECTION HAD BEEN DAMAGED DURING INSTALLATION. THEREFORE, THE RECEIVER GAVE THE EXECUTE SIGNALS FOR MANUAL FUEL CUTOFF AND AUTOMATIC FUEL CUTOFF INTERMITTENTLY WHEN THE MODULATION CHANNELS WERE OPERATED.						

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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTM	VENDOR NAME VENDOR PART NO	
CORRECTIVE ACTION-60/C IS MAINTAINING SURVEILLANCE OF THIS COMPONENT.							090079
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	PTA8980/P1-401-00-42 RECEIVER	PRP	420 6-28-64	11 7802	YES NO		091794
FAILURE MODE-FAIL DURING OPERATION. RSC NO. 1 WOULD NOT DECODE THE AUTOMATIC AND MANUAL FUEL CUTOFF SIGNALS DURING THE RSC TEST. POST TEST INVESTIGATION REVEALED THAT SIGNALS WOULD NOT BE DECODED UNLESS TONE 8 WAS RECEIVED PRIOR TO TONES 1 OR 2.							
SYSTEM EFFECT-OPERATION DOES NOT START.							
VEHICLE EFFECT-NONE.							
CORRECTIVE ACTION-CANISTER REPLACED AFTER TEST.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	PTA8980/P1-400-01-44 RECEIVER	COMPOSITE-B FACT	440 600115	13 PLUS 134	YES NO		093407
FAILURE MODE-ERRATIC OPERATION. RSC RECEIVER NO 1 ABC LEVEL REMAINED CONSTANT AT 900 MICROVOLTS UNTIL 154 SECONDS. BETWEEN 154 AND 158 SECONDS, LEVEL FLUCTUATED FROM 250 TO 900 MICROVOLTS. AT 158 SECONDS A GRADUAL INCREASE FROM 500 MICROVOLTS BEGAN REACHING 2,500 MICROVOLTS AT 162 SECONDS. LEVEL WAS CONSTANT AFTER THAT.							
SYSTEM EFFECT-IMPROPER ANALOG SIGNAL. ABC LEVEL WAS FLUCTUATING BETWEEN 134 AND 162 SECONDS.							
VEHICLE EFFECT-NONE.							
CORRECTIVE ACTION-UNKNOWN.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	PTA8980/P1-400-01-42 RECEIVER	COMPOSITE-B FACT	420 600115	11	YES NO		091678
FAILURE MODE-OUT OF TOLERANCE. TELEMETRY INDICATED A DECREASE IN RSC NO 1 RECEIVER ABC LEVEL DURING MPFC AND AFPC 1 TRANSMISSION.							
SYSTEM EFFECT-OPERATION TOO LOW. TELEMETRY INDICATED DECREASE IN RSC NO. 1 ABC LEVEL BY 9 PCT 10W WHILE AFPC AND MPFC SIGNALS WERE RECEIVED.							
VEHICLE EFFECT-NONE.							
CORRECTIVE ACTION-UNKNOWN.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A2M-27-484/PC-400-02-31 RECEIVER, RELAY-AUTOMATIC FUEL CUT OFF	COMPOSITE-FACTORY	510 000106	FACTORY	YES NO		
FAILURE MODE-FAIL TO CEASE OPERATION AT PRESCRIBED TIME. THE AUTOMATIC FUEL CUTOFF FUNCTION DID NOT RESET AS SPECIFIED DURING THE COMPOSITE TEST. INVESTIGATION INDICATED A POSSIBLE RELAY MALFUNCTION IN THE COMMAND RECEIVER NO. 2 CAN							

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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PRI OTH	VENDOR NAME VENDOR PART NO	
	13TER. THE CANISTER WAS REPLACED AND POST-COMPOSITE TESTING WAS CONDUCTED TO VERIFY PROPER OPERATION OF THE SYSTEM.						003428
	SYSTEM EFFECT-OPERATION DOES NOT START. RELAY WAKE-UP PREVENTED RESET OF AUTOMATIC FUEL CUTOFF FUNCTION.						
	VEHICLE EFFECT-COMPOSITE DELAYED. POST-COMPOSITE TESTING REQUIRED TO SHOW SATISFACTORY SYSTEM OPERATION.						
	CORRECTIVE ACTION-REPLACED RSC RECEIVER NO.2.						
	RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	98-18-010 RECEIVER TUBE, ELECTRONIC	FAR 7-30000-017	15D 591200	11 YES NO		003744
	FAILURE MODE-ELECTRICAL SHORT. WHILE PERFORMING TESTS SIMULATING SYSTEM OPERATION, THE RESPONSE TO THE VARIOUS TONE COMBINATIONS INDICATED THAT TONE FIVE WAS MALFUNCTIONING. INTERNAL SHORTING OF VACUUM TUBE V707 WAS THE CAUSE OF THE FAILURE.						
	CORRECTIVE ACTION-SD/C WILL CONTINUE TO MONITOR THIS ITEM. THE RSC CANISTER IS EQUIPPED AT GDC WITH A LOUD VIBRATION ISOLATOR FOR ADDED PROTECTION.						003260
	RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	PTA8049/P2-301-00-11 RECEIVER	PRF	11C 590814	12/ETR YES NO		
	FAILURE MODE-OUT OF TOLERANCE. WHILE IN SAFE CONDITION ON EXTERNAL POWER, MANUAL FUEL CUTOFF AND DESTRUCT SIGNAL INDICATIONS WERE OBSERVED IN THE BLOCKHOUSE FROM THE RSC RECEIVER NO. 2. THE COMMAND CARRIER WAS NOT ON AT THE TIME. HOWEVER, ANOTHER CARRIER WAS RADIATING AT A FREQUENCY 8 MEGACYCLES AWAY FROM 11C ASSIGNED FREQUENCY AND WAS TRANSMITTING DESTRUCT FUNCTIONS.						
	SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. MANUAL FUEL CUTOFF AND DESTRUCT SIGNALS WERE INDICATED WHEN NONE SHOULD BE PRESENT.						
	VEHICLE EFFECT-NONE.						
	CORRECTIVE ACTION-UNKNOWN.						003428
	RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	PTA5081/P1-4CO-02-11 RECEIVER	COMPOSITE-B FACT	11D 590711	11 YES NO		
	FAILURE MODE-ERRATIC OPERATION. WHEN RECEIVER 2 WAS TRANSFERRED FROM INTERNAL TO EXTERNAL POWER THE SUSTAINER CUTOFF NUMBER 2 LIGHT ON THE RF SYSTEMS PANEL ILLUMINATED MOMENTARILY. SUBSEQUENT CHECKS DID NOT DUPLICATE PROBLEM.						
	SYSTEM EFFECT-IMPROPER ANALOG SIGNALS. INCORRECT DECO SIGNAL DURING RSC POWER TRANSFER TO EXTERNAL.						
	VEHICLE EFFECT-NONE.						
	CORRECTIVE ACTION-CHANGED RECEIVER NUMBER 2.						

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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTM	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	A2M-27-280/7C-4CO-03-17 RECEIVER	COMPOSITE-FACTORY	170 900512		YES NO		007090
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. NO DESTRUCT OUTPUT OR CUT-OFF OUTPUT WAS RECEIVED FROM RECEIVER NO. 1.							
SYSTEM EFFECT-LOSS OF REDUNDANCY. RECEIVER NO. 1 FAILED TO GENERATE DESTRUCT AND CUT-OFF COMMANDS.							
VEHICLE EFFECT-COMPOSITE RESCHEDULE.							
CORRECTIVE ACTION-RECEIVER REPLACED. SYSTEM RETEST AND PARTIAL COMPOSITE RETEST PERFORMED.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	FTA4360/P2-48N-03-04 RECEIVER	COMPOSITE-B FACT	4C 900154	12	YES NO		002712
FAILURE MODE-OUT OF TOLERANCE. THE RF INPUT SIGNAL LEVEL FOR RECEIVER NO. 1 WAS ABOUT ONE-HALF THAT FOR RECEIVER NO. 2. BOTH RECEIVERS USE A COMMON ANTENNA SYSTEM.							
SYSTEM EFFECT-OPERATION TOO LOW.							
VEHICLE EFFECT-NONE.							
CORRECTIVE ACTION-UNKNOWN.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	ZH-7-837/7C-3CO-02A-07	COMPOSITE-FACTORY	7C 901208		NO NO		000090
FAILURE MODE-OUT OF TOLERANCE. WFCO AND DESTRUCT WAS INDICATED 0.5 SEC AFTER ACTIVATION OF TONE CHANNEL 1 B2, AND 3 WAS INDICATED DUE TO A DEFECTIVE AGE MODULATION GENERATOR.							
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS.							
VEHICLE EFFECT-COMPOSITE DELAYED. SPECIAL RETEST (RECORDING) INDICATED SATISFACTORY OPERATION.							
CORRECTIVE ACTION-RSC SUBCARRIER MODULATION GENERATOR (AGE) WAS REPLACED.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	FTA4362/P3-203-00-06	FRF	8B 900910	13/ETR PLUS 80	YES NO		
FAILURE MODE-OUT OF TOLERANCE. THE SHUTDOWN SIGNAL FROM ENGINE TIMER TO ENGINE RELAY BOXES WAS REFLECTED ON TELEMETRY MEASUREMENTS FOR RANGE SAFETY COMMAND CUTOFF OUTPUTS, DUE TO COMMON WIRING.							
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. THE ENGINE CUTOFF SIGNAL WAS REFLECTED IN THE RANGE SAFETY COMMAND SYSTEM CUTOFF MEASUREMENTS.							
VEHICLE EFFECT-NONE.							

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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAT-ED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	SITE TIME DIF	PMI OTM	VEHICLE NAME VEHICLE PART NO
CORRECTIVE ACTION-FUTURE CANISTERS HAD DESIGN FIX IN CIRCUITRY TO PREVENT ERRONEOUS SIGNALS.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	FTA4232/P4-E01-00-00	FRF	88 500906	14/ETR 5	YES YES	
FAILURE MODE-ERRATIC OPERATION. INTERMITTENT OPERATION OF THE NO. 1 RANGE SAFETY COMMAND RECEIVER WAS INDICATED BY TLM MEASUREMENT D7V DURING ENGINE RUN. THE SIGNAL STRENGTH INDICATED BY THIS MEASUREMENT DROPPED TO ZERO 5 SEC. AFTER ENGINE START. 30 SEC. AFTER ENGINE SHUTDOWN MEASUREMENT RETURNED TO PREVIOUS SATISFACTORY LEVEL.						
SYSTEM EFFECT-ERRATIC OPERATION. INTERMITTENT OPERATION INDICATED BY TLM MEASUREMENT D7V, RANGE SAFETY CANISTER NO. 1 RECEIVED SIGNAL STRENGTH.						
VEHICLE EFFECT-NONE.						
CORRECTIVE ACTION-TROUBLESHOOTING OF TLM MEASUREMENT CIRCUITRY AND RANGE SAFETY COMMAND SYSTEM. CORRECTIVE ACTION U NENOWN. FLIGHT REPORT FTA4233 INDICATES A DIFFERENT RANGE SAFETY COMMAND NO. 1 CANISTER AND POWER SUPPLY WERE FLOWN. COULD HAVE BEEN CAUSED BY A RSC SYSTEM PROBLEM OR A SHORT CIRCUIT IN INSTRUMENTATION WIRING.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	FTA4200/P1-E03-00-50 FUSE	COUNTDOWN	98 500808	11 -10740	YES NO	
FAILURE MODE-FAIL DURING OPERATION. FUSE IN POD BLEW DURING RANGE SAFETY COMMAND CHECKS.						
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS.						
VEHICLE EFFECT-COUNTDOWN DELAY. PROBLEM CAUSED CONTINUING DELAY IN COUNTDOWN TASKS. REQUIRED ENTIRE BULKY-IN HOLD O F 60 MINUTES PLUS 19 ADDITIONAL MINUTES TO CATCH UP WITH TASKS.						
CORRECTIVE ACTION-UNKNOWN.						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	FTA4180/P1-E02-00-03	FRF	98 500820	11/ETR NO	YES NO	
FAILURE MODE-OUT OF TOLERANCE. CUTOFF SIGNAL FROM AUTOPILOT PROGRAMMER APPEARED ON RANGE SAFETY COMMAND TELETYPE CUTOFF MEASUREMENTS DUE TO COMMON WIRING BETWEEN ENGINE RELAY BOXES AND THE RANGE SAFETY COMMAND CANISTERS.						
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS. RSC CUTOFF SIGNAL MEASUREMENTS REFLECTED AUTOPILOT CUTOFF.						
VEHICLE EFFECT-NONE.						
CORRECTIVE ACTION-FUTURE CANISTERS HAD CIRCUIT CHANGED TO PREVENT ERRONEOUS SIGNAL INDICATIONS.						

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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIF DATA SOURCE PART NUMBER	VEHICLE DATE DIF	8172 TIME DIF	PRE OTH	VENDOR NAME VENDOR PART NO	
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	ZM-7-817/FC-ECO-01-12	COMPOSITE-FACTORY	120	900819	YES NO		000074
FAILURE MODE-FAIL DURING OPERATION-THE WFCU AND DESTRUCT FUNCTIONS REMAINED ON FOR 1 SECOND AFTER THE OFF COMMANDS WERE INITIATED.							
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS.							
VEHICLE EFFECT-COMPOSITE RESCHEDULED. COMPOSITE RETEST WAS PERFORMED.							
CORRECTIVE ACTION-UNKNOWN. HOWEVER ON MOST FUTURE MISSILES THE CORRECTIVE ACTION FOR SIMILAR PROBLEMS WAS TO REPAIR OR REPLACE THE (AGED) MODULATION GENERATOR.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	FT42029/P2-1CO-01-18	COMPOSITE-B FACT	16A	12	NO NO		000082
FAILURE MODE-FAIL DURING OPERATION. RANGE SAFETY COMMAND RECEIVER NO-1 APPARENTLY FAILED TO RESPOND PROPERLY TO IMP UT SIGNALS.							
SYSTEM EFFECT-OPERATION TOO LATE. RSC SIGNALS WERE NOT BEING DECODED AT PROPER TIME.							
VEHICLE EFFECT-NONE.							
CORRECTIVE ACTION-SUBSEQUENT TESTING SHOWED INPUT SIGNAL TO RECEIVER NO-1 WAS BELOW MINIMUM REQUIRED CAUSING DROPOUT OF THE THRESHOLD RELAY IN THE CANISTER. RECEIVER RESPONDED PROPERLY WITH PROPER INPUT.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	ZM-7-493/FC-1CO-03-14	COMPOSITE-FACTORY	14A	971014	YES NO		000300
FAILURE MODE-FAIL TO OPERATE AT PRESCRIBED TIME. DESTRUCT AND ENGINE CUTOFF SIGNALS WERE NOT EVIDENT FROM 34.8 TO 41.6 AND 41.6 TO 48.5 SECONDS. OPERATION WAS SATISFACTORY THEREAFTER.							
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS.							
VEHICLE EFFECT-NONE. NO RETESTING WAS PERFORMED.							
CORRECTIVE ACTION-NONE.							
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	EM-546/1A-104-03-02A	CAPTIVE	2A	3A	YES NO		000310
FAILURE MODE-PREATURE OPERATION. AN UNEXPLAINED DESTRUCT SIGNAL WAS RECEIVED BY SET 1 AT 0.04 SECONDS. POSSIBLE TR ANSIENT INTRODUCED BY LANDLINES.							
SYSTEM EFFECT-IMPROPER DISCRETE SIGNALS.							
VEHICLE EFFECT-NONE. NO DESTRUCTOR USED.							
CORRECTIVE ACTION-INVESTIGATE SUSCEPTIBILITY OF RSC SYSTEM TO OTHER AIRBORNE DISCRETES, SUCH AS THOSE GENERATED BY GUIDANCE SYSTEM.							

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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP TIME	SITE DIP OTH	PRI YES NO	VENDOR NAME VENDOR PART NO
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	EM-314/111-07-03 RECEIVER	CAPTIVE	3A 870626	8-1	YES NO	
<p>FAILURE MODE-FAIL DURING OPERATION-INTERMITTENT OPERATION.</p> <p>SYSTEM EFFECT-ERRATIC OPERATION-ELEVEN CPS RIPPLE WAS EVIDENT ON BOTH RECEIVERS.</p> <p>VEHICLE EFFECT-NONE.</p> <p>CORRECTIVE ACTION-UNKNOWN.</p>						
RANGE SAFETY COMMAND-A/B ANTENNA, COUPLER, RECEIVER	EM-364/104-1 RECEIVER	CAPTIVE	3A 870581	8-1 8.05	YES NO	
<p>FAILURE MODE-FAIL DURING OPERATION. POSSIBLE CAUSES OF FAILURE ARE 1) RING COUPLER BREAKDOWN, 2) CIRCUITRY BETWEEN COUPLER AND RECEIVER, 3) RECEIVER MALFUNCTION.</p> <p>SYSTEM EFFECT-OPERATION DOES NOT START. LOSS OF RANGE SAFETY CAPABILITY AFTER RECEIVER NO. 1 WAS TURNED OFF.</p> <p>VEHICLE EFFECT-NONE.</p> <p>CORRECTIVE ACTION-UNKNOWN.</p>						

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DIFFICULTIES REVIEW-RANGE SAFETY COMMAND SYSTEM-AIRBORNE

SYSTEM SUB-SYSTEM	TEST/REPORT NUMBER FAILED COMPONENT NAME	DIP DATA SOURCE PART NUMBER	VEHICLE DATE DIP	SITE TIME DIP	PRI OTH	VENDOR NAME VENDOR PART NO